

ADMINISTRATION & FINANCE INDUSTRY AND UA GRADUATES FAST FACTS



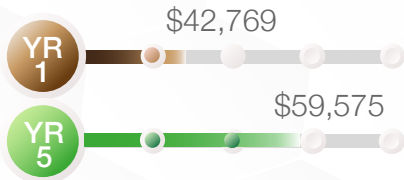
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Many Traditions One Alaska

The University of Alaska has identified 33 programs whose graduates are important to the administration and finance industry in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

ACCOUNTING

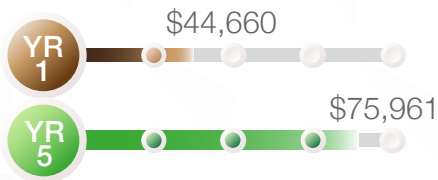
81.5% working in AK within a year of graduating



39.2% wage growth

ECONOMICS & FINANCE

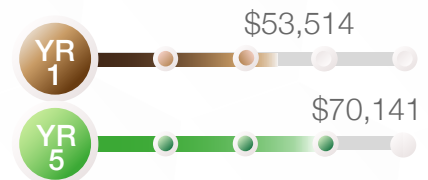
76.1% working in AK within a year of graduating



70.1% wage growth

ADMINISTRATION

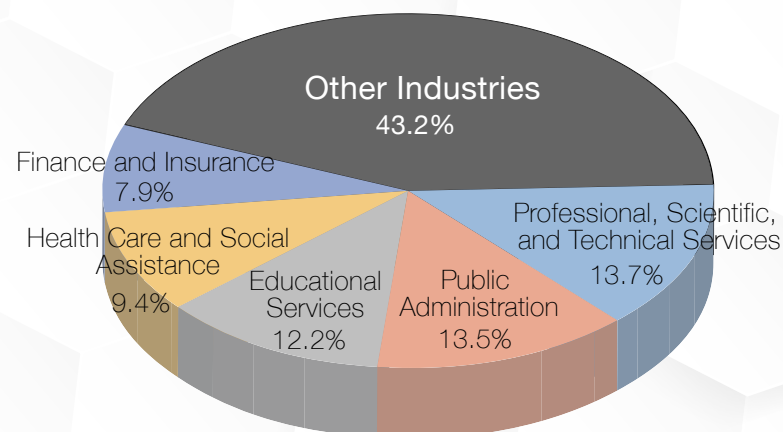
72.6% working in AK within a year of graduating



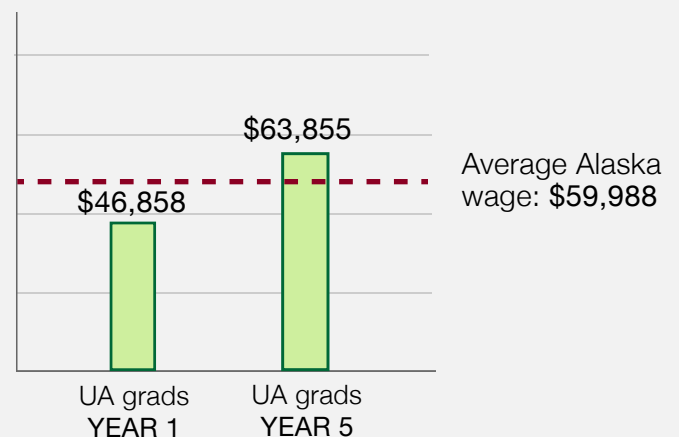
31.1% wage growth

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

The industries where first-year graduates work



Program grads' average wages



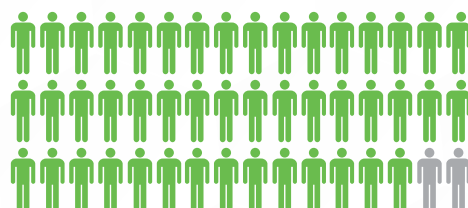
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Do these programs boost the Alaska hire rate?

96.9%
of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 90.7% for all admin/finance workers

Over the last three years, the industry hired ...

5,137 Bookkeeping, Accounting,
and Auditing Clerks

4,870 General and Operations
Managers

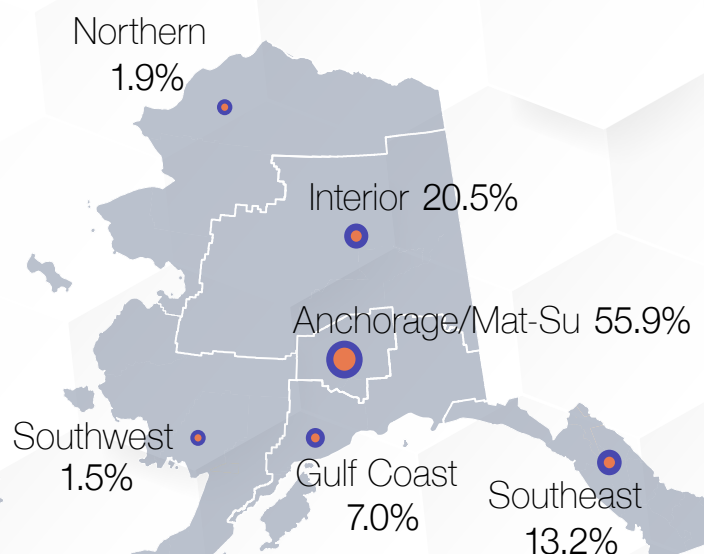
3,274 Chief Executives

1,559 Accountants and Auditors

971 Sales Managers

821 Financial Managers

Where do UA's administration & finance program grads work?



Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

ADMINISTRATION & FINANCE INDUSTRY AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska, in an effort to highlight and enhance the relationship between its programs and key Alaska industries, has prepared data on the 33 programs that are particularly relevant to the state's Administration and Financial Occupations. These include nine that result in a certificate or license, seven that result in an associate degree, and 17 that result in a bachelor's degree or above.

Over the last 10 years, 5,815 people have graduated from those programs with the following outcomes by degree type:

- **Licenses and Certificates:** 472 graduates, 388 employed in Alaska within a year of graduating with average first-year wages of \$40,441 and average fifth-year wages of \$47,915
- **Associate Degrees:** 1,360 graduates, 1,020 employed in Alaska within a year of graduating with average first-year wages of \$38,397 and average fifth-year wages of \$49,495
- **Bachelor's Degrees and Above:** 3,983 graduates, 3,014 employed in Alaska within a year of graduating with average first-year wages of \$50,531 and average fifth-year wages of \$70,335

Three types of programs account for a large share (76.1 percent) of graduates and warrant special mention:

- **Accounting** (one associate and one bachelor at UAA, one endorsement, certificate, associates, and one bachelor at UAF, one endorsement and one certificate at UAS): 1,544 graduates, 1,259 employed in Alaska within a year of graduating with average first-year wages of \$42,769 and average fifth-year wages of \$59,545
- **Economics & Finance** (three bachelors at UAA, one masters at UAF, one certificate at UAS): 406 graduates, 309 employed in Alaska within a year of graduating with average first-year wages of \$44,660 and average fifth-year wages of \$75,961
- **Administration** (three bachelors and two masters at UAA, one bachelor and one master's program at UAF and UAS): 2,402 graduates, 1,745 employed in Alaska within a year of graduating with average first-year wages of \$53,514 and average fifth-year wages of \$70,141

The relationship between UA programs and hiring in administration and finance

In an industry where thousands of people have been hired over the last several years, the University of Alaska admin/finance programs have been very focused on meeting the demand. Over the last ten years, 25.6% of the students who found employment during the first year after graduating from an administrative or finance program worked in targeted occupations.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better trained workers.

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Related questions and answers

Q: What percentage of Administration and Finance hires are UA grads?

Those types of questions can be answered only for specific program graduates or specific industry occupations, based on the long-running collaboration between the University of Alaska and the Department of Labor and Workforce Development. It's less useful to lump all the programs and degree types together.

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state.

The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: How were the programs and target occupations selected?

The University of Alaska analyzed labor market information to determine the largest and fastest-growing occupations in the administration and finance industry, then linked 33 programs based on occupations' titles and characteristics.

Q: Are there emphasis areas embedded within degree programs that could provide targeted training towards high growth occupations in this industry sector?

Yes, several degree programs provide options for students to specialize in an emphasis area that can enhance their education and employability. For example, while most administration and finance programs provide broad training in the high growth occupations of Human Resources & Compensation, Benefits Specialists, or Managers, some programs also offer targeted training through an emphasis area.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are less formal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

Q: Are there majors in the field of Human Resources & Compensation/Benefits Specialists/Managers?

There are currently not any programs directly related to these fields, except for an emphasis area in the UAS Bachelor's degree in Business Administration. However, many of these majors could lead to jobs within those high growth occupations.

This report is a collaboration among UA Workforce Development, UA Data Strategy and Institutional Research, and the Alaska Department of Labor and Workforce Development's Research and Analysis Section. For more information, visit <https://www.alaska.edu/research/wd/>.

ADMINISTRATION & FINANCE INDUSTRY AND UA GRADUATES FAST FACTS



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The 33 programs linked to administration and finance

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Accountants, Auditors, Compliance Officers, & Bookkeepers (13-2011, 13-1041, 43-3031)	UAF	Bookkeeping Technician	Occupational Endorsement Cert	55*	41	\$34,069	\$41,243
	UAS	Accountant Endorsement	Occupational Endorsement Cert	66*	60	\$52,218	\$60,422
	UAF	Accounting Technician	Certificate	77*	60	\$34,343	\$37,572
	UAS	Accounting Technician	Certificate	103	83	\$38,837	\$50,815
	UAA	Accounting	Associate of Applied Science	298	237	\$36,106	\$48,719
	UAF	Applied Accounting	Associate of Applied Science	145	106	\$37,819	\$48,010
	UAA	Accounting	Bachelor of Business Admin.	591	503	\$46,608	\$69,182
	UAF	Accounting	Bachelor of Business Admin.	209	169	\$46,748	\$69,516
General, Operations Managers, Management Analysts, & Chief Executives (11-1021, 13-1111, 11-1011)	UAF	Applied Business Management	Certificate	90	73	\$39,692	\$43,564
	UAF	Tribal Management	Certificate	40*	38	\$38,106	\$42,887
	UAA	Small Business Management	Certificate	6*	5	-	-
	UAS	Small Business Management	Certificate	24*	19	\$39,196	-
	UAA	General Business	Associate of Applied Science	167*	123	\$35,095	\$45,363
	UAA	Small Business Administration	Associate of Applied Science	174	132	\$35,727	\$51,038
	UAF	Applied Business	Associate of Applied Science	304	213	\$40,755	\$49,345
	UAF	Tribal Management	Associate of Applied Science	35*	32	\$42,746	-
	UAS	Business Administration	Associate of Applied Science	234*	176	\$42,468	\$56,567
	UAA	Global Log Supply Chain Mgt	Bachelor of Business Admin.	62*	49	\$55,231	\$73,685
	UAA	Management	Bachelor of Business Admin.	639	487	\$41,002	\$62,010
	UAF	Business Administration	Bachelor of Business Admin.	345	232	\$35,672	\$59,995
	UAS	Business Administration	Bachelor of Business Admin.	399	261	\$53,635	\$61,380
	UAA	Applied Technologies Leadership	Bachelor of Science	9*	5	-	-
	UAA	General Management	Master of Business Admin.	362*	292	\$71,333	\$90,491
	UAF	General Management	Master of Business Admin.	282*	197	\$63,802	\$74,806
Financial Managers, Personal Financial Advisors, Investment/Commodities Analysts, Budget/Tax Examiners, Loan Officers, Insurance Underwriters (11-3031, 13-2052, 13-2098, 13-2081, 41-3031, 13-2031, 13-2041, 13-2072, 13-2053)	UAA	Public Administration	Master of Public Admin.	111*	87	\$55,262	\$74,599
	UAS	Public Administration	Master of Public Admin.	193	135	\$65,032	\$100,986
	UAS	Financial Institutions	Occupational Endorsement Cert	4*	4	-	-
	UAA	Economics	Bachelor of Arts	110	86	\$37,148	\$66,378
	UAA	Economics	Bachelor of Business Admin.	76	61	\$41,166	\$60,749
Marketing Specialists, Public Relations Specialists, & Sales Managers (13-1161, 11-2021, 27-3031, 11-2022)	UAA	Finance	Bachelor of Business Admin.	215	161	\$47,467	\$80,481
	UAF	Resource & Applied Economics	Master of Science	52	39	\$49,491	\$75,234
	UAA	Marketing	Bachelor of Business Admin.	152	124	\$39,853	\$55,699
	UAF	Professional Communication	Master of Arts	45*	32	\$38,578	\$43,514

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

THE AVIATION INDUSTRY AND UA GRADUATES FAST FACTS



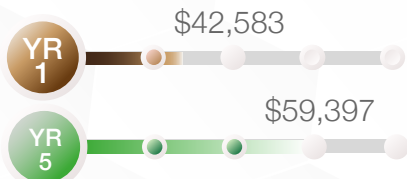
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The University of Alaska has identified 11 programs whose graduates are important to the aviation industry in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

AVIATION MAINTENANCE

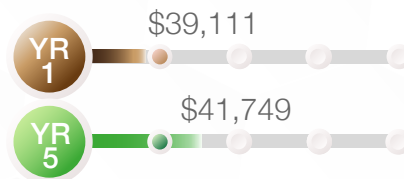
74.4% working in AK
within a year
of graduating



39.5% wage growth

PILOTING

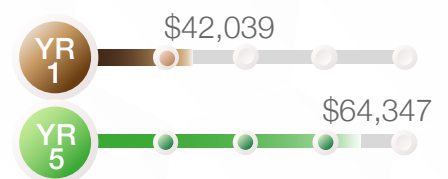
66.7% working in AK
within a year
of graduating



6.7% wage growth

AVIATION ADMINISTRATION

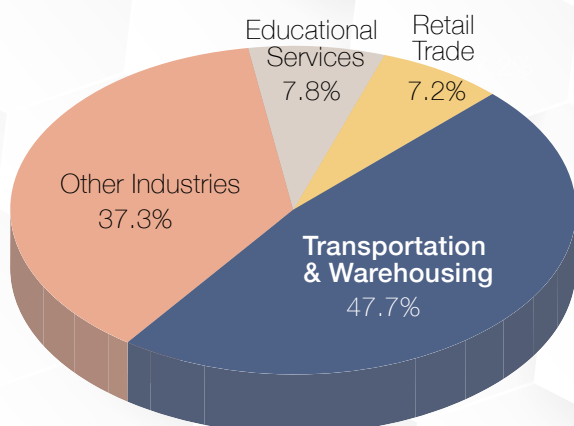
72.1% working in AK
within a year
of graduating



53.1 % wage growth

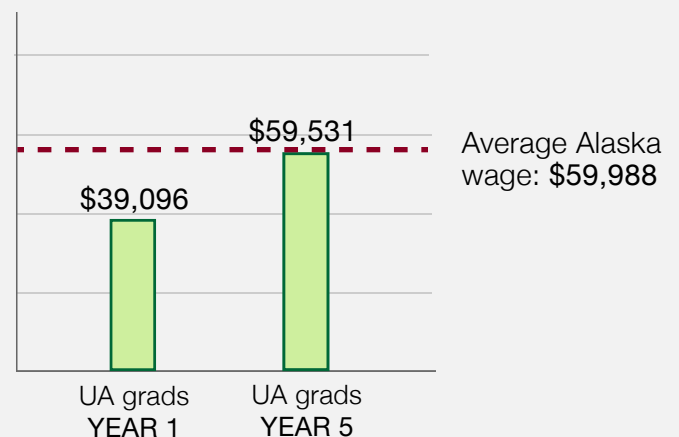
Note: Data reflects the actual employment and wage data of all graduates, and is not limited to those employed in aviation

The industries where first-year graduates work



Note: Graduates of all 11 key UA aviation programs

Program grads' average wages



THE AVIATION INDUSTRY AND UA GRADUATES FAST FACTS



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Do these programs boost the Alaska hire rate?

94.6%
of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 79.6% for all aviation services workers

Over the last three years, the aviation industry hired ...

1,485 Airline Pilots, Copilots, and flight engineers

862 Aircraft Mechanics and Service Technicians

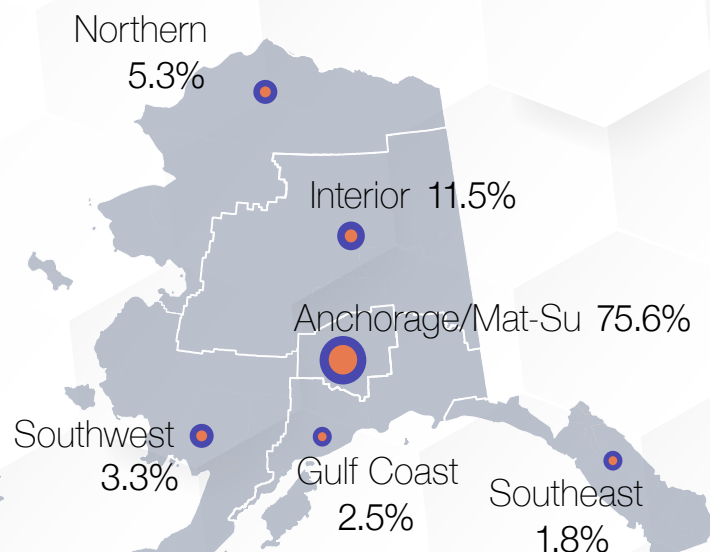
72 General and Operations Managers

44 Automotive Service Techs and Mechanics

38 Chief Executives

32 Managers, All Other

Where do UA's aviation program grads work?



Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

THE AVIATION INDUSTRY AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska, in an effort to highlight and enhance the relationship between its programs and key Alaska industries, has prepared data on the 11 programs that are particularly relevant to the state's air transportation industry. These include three that result in a certificate, six that result in an associate degree, and two that result in a bachelor's degree.

Over the last 10 years, 1,240 people have graduated in those programs with the following degree type:

- **Licenses and Certificates:** 327 graduates, 251 employed in Alaska within a year of their last enrollment or graduation date with average first-year wages of \$42,512 and average fifth-year wages of \$64,845
- **Associate Degrees:** 523 graduates, 392 employed in Alaska within a year of their last enrollment or graduation date with average first-year wages of \$35,193 and average fifth-year wages of \$52,301
- **Bachelor's Degrees and Above:** 390 graduates, 265 employed in Alaska within a year of their last enrollment or graduation date with average first-year wages of \$41,527 and average fifth-year wages of \$65,617

Three types of programs account for the largest share (58 percent) of graduates and warrant special mention:

- **Aviation Maintenance** (two certificates and one associate at UAA, one certificate and one associate at UAF): 355 graduates, 264 employed in Alaska within a year of their last enrollment or graduation date with average first-year wages of \$42,583 and average fifth-year wages of \$59,397
- **Piloting** (one associate at UAA and UAF): 36 graduates, 24 employed in Alaska within a year of their last enrollment or graduation date with average first-year wages of \$39,111 and average fifth-year wages of \$41,749
- **Aviation Administration** (one associate and two bachelor programs at UAA): 556 graduates, 401 employed in Alaska within a year of their last enrollment or graduation date with average first-year wages of \$42,039 and average fifth-year wages of \$64,347

The relationship between UA programs and hiring in aviation

Air transportation is critical to connecting all of the outlying villages in Alaska together, and the state to the rest of the world. Air transportation and its support services account for over a third of all transportation jobs in Alaska. Over a third of the University of Alaska aviation students found employment in the transportation and warehousing industry, which employs most of Alaska's aviation workers such as pilots and aircraft maintenance.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better trained workers.

THE AVIATION INDUSTRY AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state. The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: How were the programs and target occupations selected?

The University of Alaska analyzed labor market information to determine the largest and fastest-growing occupations in the aviation industry, then linked 11 programs based on occupations' titles and characteristics. While other UA programs also provide some preparation for aviation jobs, this report excludes general administrative training programs that are useful for all sectors, such as accountants and human resource professionals.

Q: What percentage of aviation hires are UA grads?

Those types of questions can be answered only for specific program graduates or specific industry occupations, based on the long-running collaboration between the University of Alaska and the Department of Labor and Workforce Development. It's less useful to lump all the programs and degree types together.

Q: Why are more students not graduating from the professional piloting programs?

Although this report only shows 36 graduates over the past 10 years, the professional piloting programs have trained an additional 331 students during the same amount of time. Nearly 62% of these students obtained employment in Alaska within a year of training. Many students obtain the proficiencies employers need or want prior to completing their degree program.

Q: Why are the wages shown lower than other published average starting aviation salaries?

Data showing average starting salaries for certain occupations can inform prospective students about how much they can make if they find and take a job in that occupation. The wage data shown here, however, comprehensively quantify the wages actually earned by the graduates who worked all four quarters in their full first and fifth year after graduation, irrespective of what kind of job they took and whether they worked full-time, part-time, or intermittent. Both types of wage data have valid purposes and encourage additional research when they diverge.

Q: Why should students consider continuing their education to earn an associate or bachelor degree in aviation?

Wage progression tends to be higher over the long-term for associate and bachelor degree programs than for certificate programs. It's also important for potential students to consider factors besides wages when choosing a degree or training program.

Q: Are there emphasis areas embedded within degree programs that provide targeted training?

Yes, degree programs can provide options for students to specialize in an emphasis area that can enhance their education and employability. For example, the UAA Bachelor of Science in Aviation Technology has three areas of emphasis, Professional Piloting, Aviation Management, and Aeronautical Studies that provide pathways to different aviation careers.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are less formal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

THE AVIATION INDUSTRY AND UA GRADUATES FAST FACTS



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The 11 programs linked to aviation

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Airline/Commercial Pilots, Copilots, and Flight Engineers (53-2011, 53-2012)	UAA	Professional Piloting	Associate of Applied Science	19	14	\$34,442	\$56,271
	UAF	Professional Piloting	Associate of Applied Science	17*	10	\$44,946	-
Aircraft Mechanics & Service and Avionics Technicians (49-3011, 49-2091)	UAA	Aviation Maint - Airframe	Certificate	83*	62	\$39,522	\$58,145
	UAA	Aviation Maint - Powerplant	Certificate	67*	52	\$38,987	\$60,893
	UAF	Airframe and Powerplant	Certificate	111	83	\$45,465	\$62,769
	UAA	Aviation Maint Technology	Associate of Applied Science	52	37	\$42,098	\$56,525
	UAF	Aviation Maintenance	Associate of Applied Science	42	30	\$48,849	\$56,073
Airfield Operations Specialists & Transportation, Storage, and Distribution Managers (53-2022, 11-3071)	UAA	Global Log & Supply Chain Mgt	Bachelor of Business Admin.	62*	49	\$55,231	\$73,685
	UAA	Aviation Administration	Associate of Applied Science	58	47	\$38,639	\$48,544
	UAA	Aviation Technology	Bachelor of Science	275	187	\$35,512	\$64,381
Air Traffic Controllers (53-2021)	UAA	Air Traffic Control	Associate of Applied Science	293	219	\$28,500	\$52,364

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

THE CONSTRUCTION INDUSTRY AND UA GRADUATES FAST FACTS



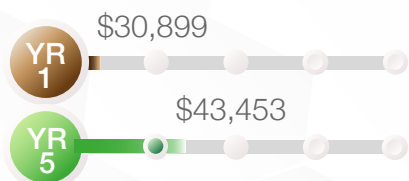
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The University of Alaska has identified 37 programs whose graduates are important to the construction industry in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

CARPENTRY

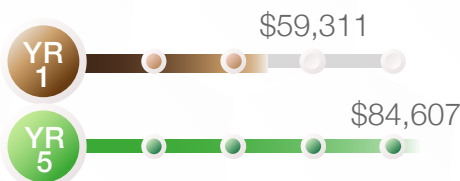
83.7% working in AK within a year of graduating



40.6% wage growth

CIVIL ENGINEERING

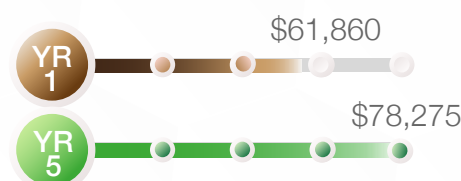
84.8% working in AK within a year of graduating



42.6% wage growth

CONSTRUCTION MANAGEMENT

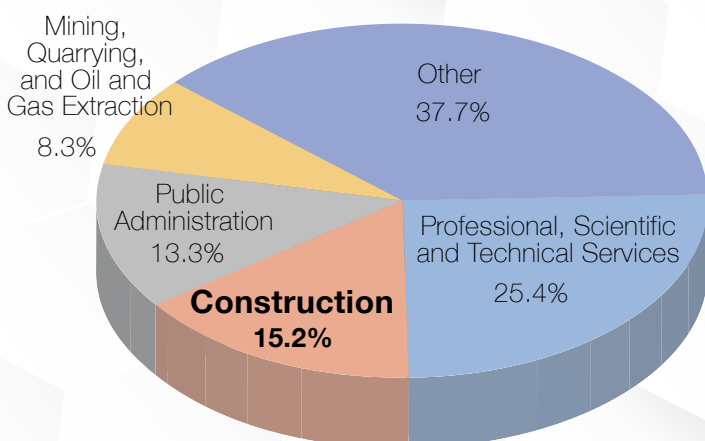
86.4% working in AK within a year of graduating



26.5% wage growth

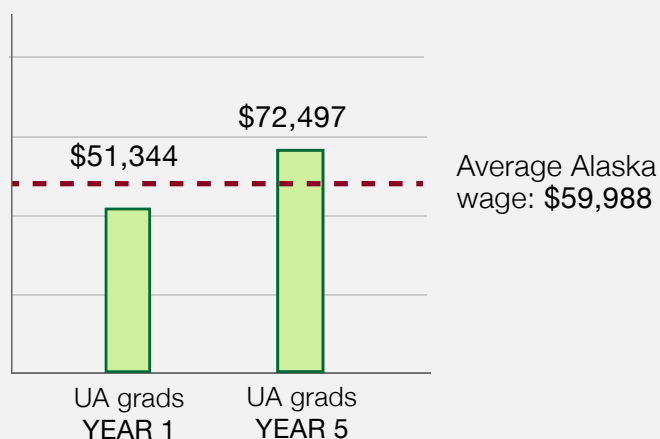
Note: Data reflects the actual employment and wage data of all graduates, and is not limited to those employed in construction

The industries where first-year graduates work



Note: Graduates of all 37 key UA programs

Program grads' average wages



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Do these programs boost the Alaska hire rate?

96.7%

of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 83.0% for all construction workers

Over the last three years, the construction industry hired ...

807 Heavy/Tractor Truck Drivers

492 Construction Managers

344 Heating/Air Conditioning/
Refrigeration Mechanics

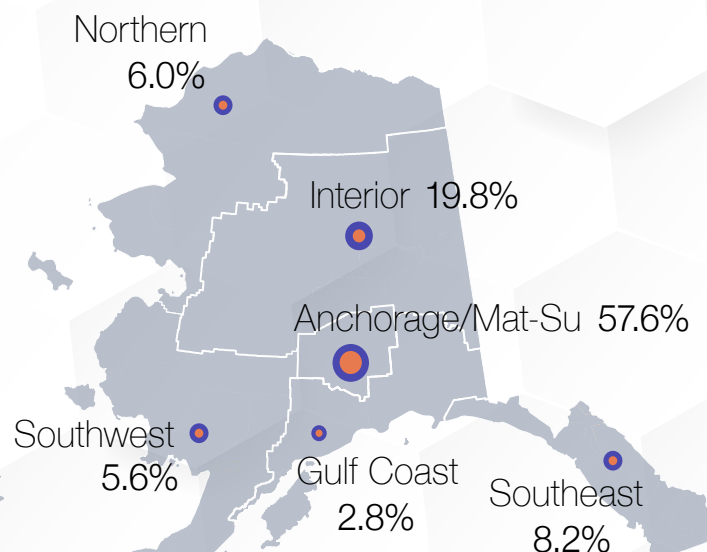
205 General/Operations Managers

174 Telecommunications Equipment
Installers and Repairers*

* Does not include Line Installers

Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

Where do UA's construction program grads work?



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska, in an effort to highlight and enhance the relationship between its programs and key Alaska industries, has prepared data on the 37 programs that are particularly relevant to the state's construction industry. These include 19 that result in a certificate or occupational endorsement, 11 that result in an associate degree, and 7 that result in a bachelor's degree.

Over the last 10 years, 1,968 people have graduated from those programs with the following outcomes by degree type:

- **Licenses and Certificates:** 607 graduates, 503 employed in Alaska within a year of graduating with average first-year wages of \$40,371 and average fifth-year wages of \$52,505
- **Associate Degrees:** 463 graduates, 378 employed in Alaska within a year of graduating with average first-year wages of \$45,841 and average fifth-year wages of \$62,437
- **Bachelor's Degrees and Above:** 898 graduates, 752 employed in Alaska within a year of graduating with average first-year wages of \$61,837 and average fifth-year wages of \$84,409

Three types of programs account for the largest share (52 percent) of graduates and warrant special mention:

- **Carpentry** (two certificates at UAF, one certificate and one associate at UAS): 202 graduates, 169 employed in Alaska within a year of graduating with average first-year wages of \$30,899 and average fifth-year wages of \$43,453
- **Civil Engineering** (one bachelor and two masters at UAA, one bachelor and one master at UAF): 594 graduates, 504 employed in Alaska within a year of graduating with average first-year wages of \$59,311 and average fifth-year wages of \$84,607
- **Construction Management** (one associate and one bachelor at UAA, one associate at UAF): 235 graduates, 203 employed in Alaska within a year of graduating with average first-year wages of \$61,860 and average fifth-year wages of \$78,275

The relationship between UA programs and hiring in construction

Construction is critical to building and maintaining Alaska's spread out infrastructure. It is also considered an indicator of growth when other industries need construction in order to expand or if more residents need homes to live in. While only 15% of the university's construction program graduates work directly in the construction industry, just over a quarter of graduates also work in closely related industries such as architecture and engineering.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better-trained workers.

THE CONSTRUCTION INDUSTRY AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state.

The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: How were the programs and target occupations selected?

The University of Alaska analyzed labor market information to determine the largest and fastest-growing occupations in the construction industry, then linked 37 programs based on occupations' titles and characteristics. While other UA programs also provide some preparation for construction jobs, this report excludes general administrative training programs that are useful for all sectors, such as accountants and human resource professionals.

Q: What percentage of Construction hires are UA grads?

Those types of questions can be answered only for specific program graduates or specific industry occupations, based on the long-running collaboration between the University of Alaska and the Department of Labor and Workforce Development. It's less useful to lump all the programs and degree types together.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are less formal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

THE CONSTRUCTION INDUSTRY AND UA GRADUATES FAST FACTS



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The 37 programs linked to construction

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Heavy and Tractor-Trailer Truck Drivers (53-3032)	UAS	Power Technology	Occupational Endorsement Cert	17*	15	\$55,839	-
	UAA	Heavy Duty Trans & Equip	Certificate	28	22	\$47,447	\$55,523
	UAA	Heavy Duty Trans & Equip	Associate of Applied Science	25	23	\$48,642	\$76,193
	UAA	Diesel Power Technology	Associate of Applied Science	3*	3	-	-
Carpenters (47-2031)	UAS	Power Technology	Associate of Applied Science	39	34	\$50,475	\$64,727
	UAF	Basic Carpentry	Occupational Endorsement Cert	53*	37	\$19,057	-
	UAF	CTT: Facilities Maintenance	Occupational Endorsement Cert	77*	71	\$33,094	-
	UAS	Construction Technology	Occupational Endorsement Cert	58*	52	\$30,153	\$40,077
Construction Managers (11-9021)	UAS	Construction Technology	Associate of Applied Science	14	9	\$45,153	-
	UAA	Construction Management	Associate of Applied Science	31	27	\$50,682	\$72,956
	UAF	Construction Management	Associate of Applied Science	55*	48	\$57,178	\$65,284
	UAA	Construction Management	Bachelor of Science	149*	128	\$66,258	\$85,526
Civil Engineers (17-2051)	UAA	Civil Engineering	Bachelor of Science	298	259	\$59,197	\$84,269
	UAF	Civil Engineering	Bachelor of Science	203	175	\$56,690	\$82,648
	UAA	Civil Engineering	Master of Civil Engineering	17*	13	\$83,539	-
	UAA	Civil Engineering	Master of Science	48*	36	\$59,893	\$70,948
Sheet Metal Workers and Welders (47-2211, 51-4121)	UAF	Civil Engineering	Master of Science	28*	21	\$61,778	\$100,343
	UAA	Advanced Welding	Occupational Endorsement Cert	27*	21	\$42,597	-
	UAA	Nondestructive Testing Tech	Occupational Endorsement Cert	52*	47	\$52,773	-
	UAA	Welding	Occupational Endorsement Cert	52*	44	\$42,540	-
	UAF	Entry Level Welder	Occupational Endorsement Cert	87*	70	\$39,551	\$64,225
	UAS	Welding	Occupational Endorsement Cert	62*	49	\$35,868	-
	UAA	Welding Technology	Certificate	30*	22	\$47,878	\$50,476
Civil Engineering Technicians (17-3022, 17-3029)	UAA	Weld & Nondestruct Test Tech	Associate of Applied Science	77*	67	\$46,429	\$74,149
	UAA	Architectural Technology	Certificate	6*	6	\$38,143	-
	UAA	Civil Technology	Certificate	2*	2	-	-
	UAA	Mech & Electrical Technology	Certificate	2*	2	-	-
	UAA	Structural Technology	Certificate	2*	2	-	-
	UAF	Drafting Technology	Certificate	25	18	\$39,062	\$53,203
	UAA	Archit & Engr Technology	Associate of Applied Science	127	93	\$35,183	\$52,293
Surveyors, Cartographers, and Photogrammetrists (17-1022, 17-1021, 17-3031)	UAF	Drafting Technology	Associate of Applied Science	22*	17	\$35,252	-
	UAA	Geomatics	Associate of Applied Science	32	28	\$55,518	\$71,155
	UAA	Geomatics	Bachelor of Science	96	75	\$59,811	\$75,397
Heating, Air Conditioning, and Refrigeration Mechanics/Installers (49-9021)	UAA	Residential Air Cond & Ref	Occupational Endorsement Cert	2*	2	-	\$86,910
	UAA	Residential Heat/Vent	Occupational Endorsement Cert	2*	2	-	-
	UAA	Refrig & Heat Technology	Certificate	23	19	\$44,634	\$59,084
	UAA	Refrig & Heat Technology	Associate of Applied Science	38	29	\$41,086	\$58,878

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

EDUCATION HIRING AND UA GRADUATES FAST FACTS



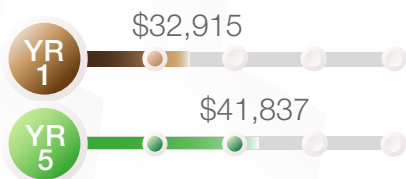
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The University of Alaska has identified 41 programs whose graduates are important to education in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

EARLY CHILDHOOD

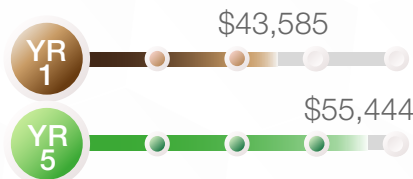
82.6% working in AK within a year of graduating



27.1% wage growth

ELEMENTARY

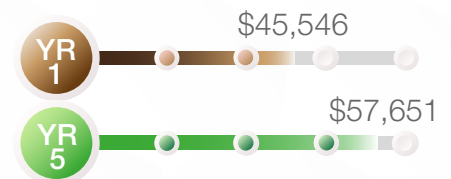
89.7% working in AK within a year of graduating



27.2% wage growth

SECONDARY

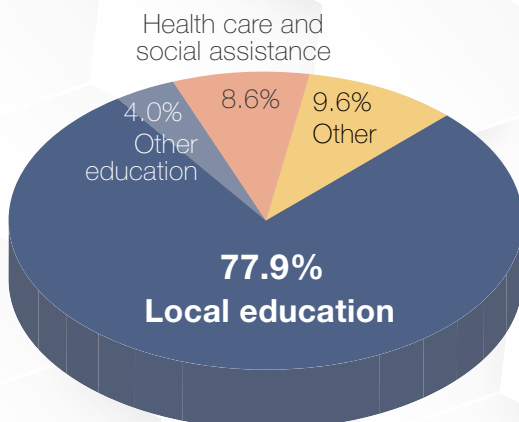
89.4% working in AK within a year of graduating



26.6% wage growth

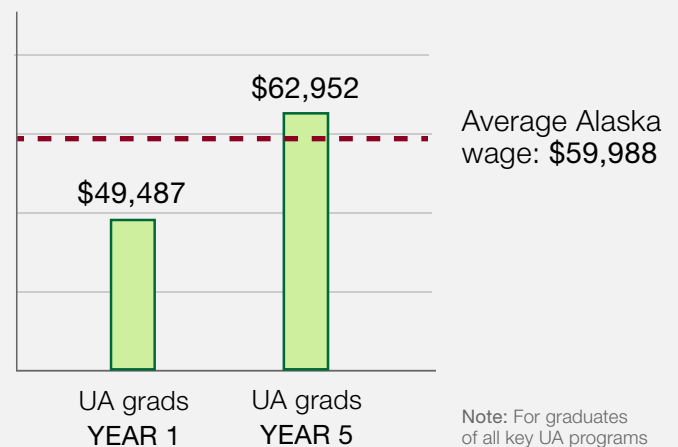
Note: Employment and wage data not limited to graduates who work in education

The industries where first-year graduates work



Note: For graduates of all key UA programs

Program grads' average wages



EDUCATION HIRING AND UA GRADUATES FAST FACTS



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Do these programs boost the Alaska hire rate?

97.8%

of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 90.4% for all education workers

Over the last 3 years, the
education industry hired ...

10,360 Teachers, General

4,480 Teaching Assistants

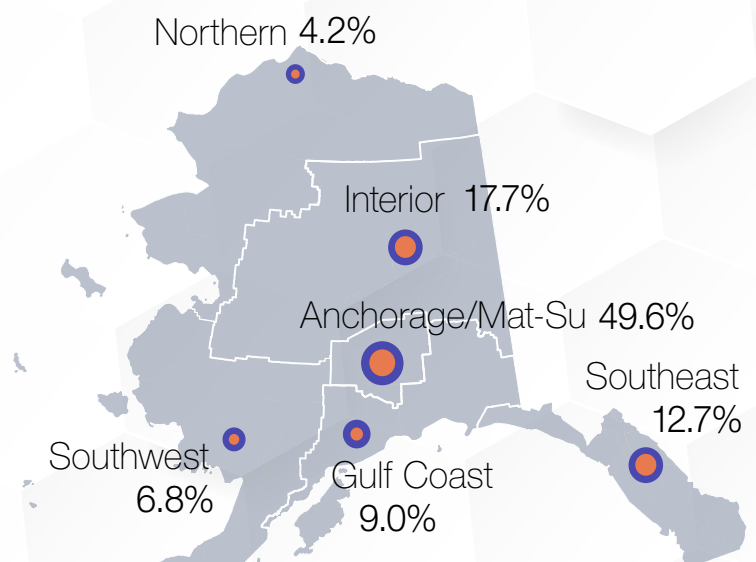
2,266 Educ Instruction/Library

1,544 Elementary Teachers

1,080 Secondary Teachers

887 Training and
Development Specialists

Where do UA's education program grads work?



Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest. The "Teachers, general" category does not include the elementary and secondary teachers listed separately.

EDUCATION HIRING AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska, in an effort to highlight and enhance the relationship between its programs and key Alaska industries, has prepared data on the 41 current programs that are particularly relevant to local education employment in the state. These include 15 that result in a certificate or licensure, two that result in an associate degree, and 24 that result in a bachelor's degree or above.

Over the last 10 years, 5,225 people have graduated from those programs with the following outcomes by degree type:

- **Licenses and Certificates:** 1,506 graduates, 1,383 employed in Alaska within a year of graduating with average first-year wages of \$53,463 and average fifth-year wages of \$65,150
- **Associate Degrees:** 258 graduates, 208 employed in Alaska within a year of graduating with average first-year wages of \$30,139 and average fifth-year wages of \$36,646
- **Bachelor's Degrees and Above:** 3,461 graduates, 3,024 employed in Alaska within a year of graduating with average first-year wages of \$48,862 and average fifth-year wages of \$63,485

Three types of programs account for the largest share of graduates (56.1 percent) and warrant special mention:

- **Early Childhood Education** (one associate program at UAA; and one certificate, one associate, and one bachelor at UAF): 582 graduates, 481 employed in Alaska within a year of graduating with average first-year wages of \$32,915 and average fifth-year wages of \$41,837
- **Elementary Education** (one certificate and one bachelor program at UAA; and one license, one bachelor, and one master at both UAF and UAS): 1,263 graduates, 1,133 employed in Alaska within a year of graduating with average first-year wages of \$43,585 and average fifth-year wages of \$55,444
- **Secondary Education** (two licenses, one bachelor, and one master at UAF; and one license and one master at UAS): 1,086 graduates, 971 employed in Alaska within a year of graduating with average first-year wages of \$45,546 and average fifth-year wages of \$57,651

The relationship between UA programs and education hiring

The University of Alaska education programs focused on meeting demand in an industry that has hired thousands in Alaska over the last several years. Over the last 10 years, 77.5 percent of the students who found jobs during the first year after graduating from an education program worked in local government education.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better trained workers.

EDUCATION HIRING AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: How were the programs and target occupations selected?

The University of Alaska analyzed labor market information to determine the largest and fastest-growing occupations in education, then linked 41 programs based on occupations' titles and characteristics. While other UA programs also provide some preparation for jobs in education, this report excludes general administrative training programs that are useful for all sectors, such as accountants and human resource professionals.

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state.

The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: Why do students with certificates earn more than those with bachelor's degrees?

Many of the certification programs are graduate-level, so the students already have advanced degrees and most likely are already employed. These certifications give students additional skills and an opportunity to earn higher wages.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are less formal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

EDUCATION HIRING AND UA GRADUATES FAST FACTS



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The 41 programs linked to education

Target occupations	University	Major	Degree	Category	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Preschool, Except Special Education (25-2011)	UAF	Early Childhood Education	Certificate	Early Childhood	13*	10	\$20,692	\$31,177
	UAA	Early Childhood Development	Associate of Applied Science	Early Childhood	118	92	\$26,485	\$33,082
	UAF	Early Childhood Education	Associate of Applied Science	Early Childhood	127	106	\$33,122	\$40,164
	UAF	Child Develop & Family Studies	Bachelor of Arts	Early Childhood	77*	56	\$35,817	\$42,526
Kindergarten and Elementary School Teachers, Except Special Ed (25-2012, 25-2021)	UAF	Elementary Education	Bachelor of Arts	Elementary Ed	204*	183	\$36,708	\$52,222
	UAS	Elementary Education	Bachelor of Arts	Elementary Ed	99	87	\$38,675	\$52,613
	UAS	Elementary Education	Master of Arts in Teaching	Elementary Ed	126	101	\$48,041	\$59,778
	UAF	Elementary Education	Master of Education	Elementary Ed	20*	13	\$49,237	\$65,141
	UAF	Elementary Education	Graduate Licensure Program	Elementary Ed	67	60	\$42,069	\$55,687
	UAS	Ed Cert - Elementary Education	Graduate Licensure Program	Elementary Ed	201	179	\$43,809	\$55,919
	UAA	Language Education	Graduate Certificate	Elementary Ed	122*	119	\$59,264	-
Middle School and Secondary Teachers, Except Special Ed & CTE (25-2031, 25-2022)	UAF	Secondary Education	Bachelor of Arts	Secondary Ed	6*	4	-	-
	UAF	Teach Cred-Sec Ed	Undergrad Licensure Program	Secondary Ed	46	43	\$39,855	\$52,061
	UAS	Secondary Education	Master of Arts in Teaching	Secondary Ed	330	292	\$43,996	\$54,023
	UAF	Secondary Education	Master of Education	Secondary Ed	158*	132	\$47,447	\$66,119
	UAS	Secondary Education	Graduate Licensure Program	Secondary Ed	133	116	\$42,040	\$56,158
Elementary, Middle School, and Secondary Ed, except Special Ed (25-2021, 25-2031, 25-2022)	UAS	Ed Cert - Secondary Education	Graduate Licensure Program	Secondary Ed	5*	4	-	-
	UAF	K-12 Art	Undergrad Licensure Program	Multiple Ed Levels	3	3	-	-
	UAA	Music Education	Bachelor of Music	Multiple Ed Levels	65	52	\$21,721	\$44,491
	UAF	Music Education	Bachelor of Music	Multiple Ed Levels	4*	4	-	-
	UAA	Physical Education	Bachelor of Science	Multiple Ed Levels	146	116	\$25,768	\$57,400
	UAF	Education	Master of Education	Multiple Ed Levels	92	79	\$61,216	\$66,202
	UAS	Education	Master of Education	Multiple Ed Levels	157	140	\$58,892	\$72,776
	UAS	Reading Specialist	Master of Education	Multiple Ed Levels	79*	71	\$62,416	\$73,795
	UAA	Teaching and Learning	Master of Education	Multiple Ed Levels	53*	45	\$57,608	-
	UAS	Ed Cert - Reading	Graduate Licensure Program	Multiple Ed Levels	94	82	\$60,179	\$69,287
Special Education Teachers, All Levels (25-2051, 25-2052, 25-2053, 25-2054, 25-2059)	UAF	K-12 Art	Graduate Licensure Program	Multiple Ed Levels	13*	12	\$35,482	-
	UAS	Special Education	Bachelor of Arts	Special Ed	10*	9	\$33,325	-
	UAS	Special Education	Master of Arts in Teaching	Special Ed	32*	27	\$56,287	-
	UAA	Early Childhood Special Educ	Master of Education	Special Ed	66	48	\$50,054	\$59,176
	UAA	Special Education	Master of Education	Special Ed	82	76	\$52,774	\$69,878
	UAF	Special Education	Master of Education	Special Ed	34*	26	\$54,271	-
	UAS	Special Education	Master of Education	Special Ed	99*	83	\$57,489	\$65,078
	UAA	Special Education	Graduate Certificate	Special Ed	129	121	\$50,158	\$63,088
	UAF	Post-Bacc K-12 Spec Ed Lic Prg	Graduate Licensure Program	Special Ed	60*	54	\$52,495	\$66,462
Educational, Guidance, School, and Vocational Counselors (21-1012)	UAS	Ed Cert - Special Education	Graduate Licensure Program	Special Ed	237	216	\$54,138	\$66,112
	UAF	Counseling	Master of Education	Counseling	120*	91	\$48,562	\$63,598
Education Administrators, Elem and Secondary (11-9032)	UAF	Counseling	Graduate Licensure Program	Counseling	20*	17	\$51,935	\$60,867
	UAA	Educational Leadership	Master of Ed	Ed Admin	322	302	\$73,355	\$86,020
	UAS	Educational Leadership	Master of Ed	Ed Admin	107*	105	\$73,246	\$91,245
	UAA	Principal	Master of Ed	Ed Admin	148	147	\$76,629	\$90,927

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

FISHERIES AND MARINE SCIENCE AND UA GRADUATES FAST FACTS



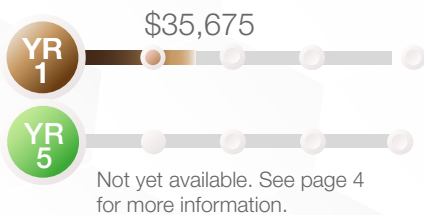
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The University of Alaska has identified 21 programs whose graduates are important to fisheries and marine science in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

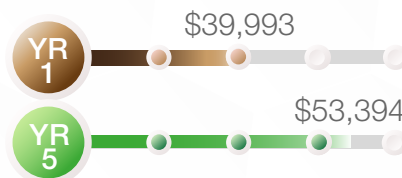
FISHERIES TECH

72.2% working in AK within a year of graduating



FISHERIES

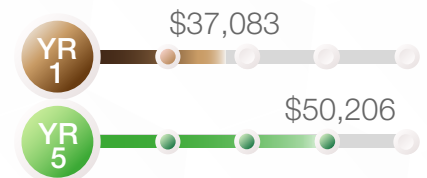
67.8% working in AK within a year of graduating



33.5% wage growth

MARINE BIOLOGY

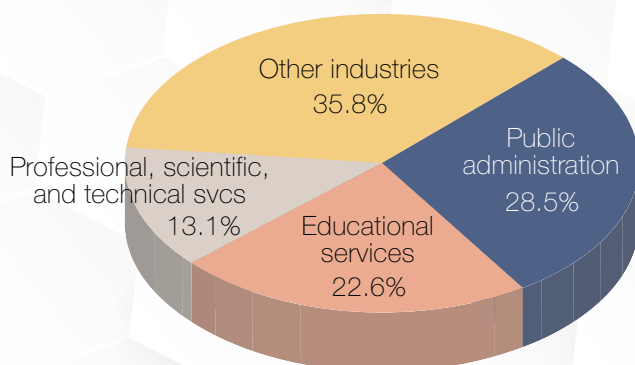
76.7% working in AK within a year of graduating



35.4% wage growth

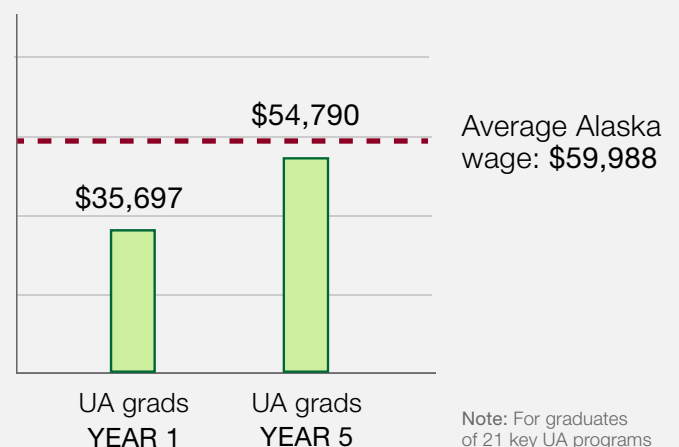
Note: Employment and wage data not limited to graduates who work in fisheries and marine science

The industries where first-year graduates work



Note: Graduates of all 21 key UA programs

Program grads' average wages



Note: For graduates of 21 key UA programs

FISHERIES AND MARINE SCIENCE AND UA GRADUATES FAST FACTS



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Do these programs boost the Alaska hire rate?

94.1%
of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 66.3% for all workers in fisheries and marine science

Over the last three years, the industry hired ...

1,375 Life, Phys, Soc Science Techs

633 Biological Technicians

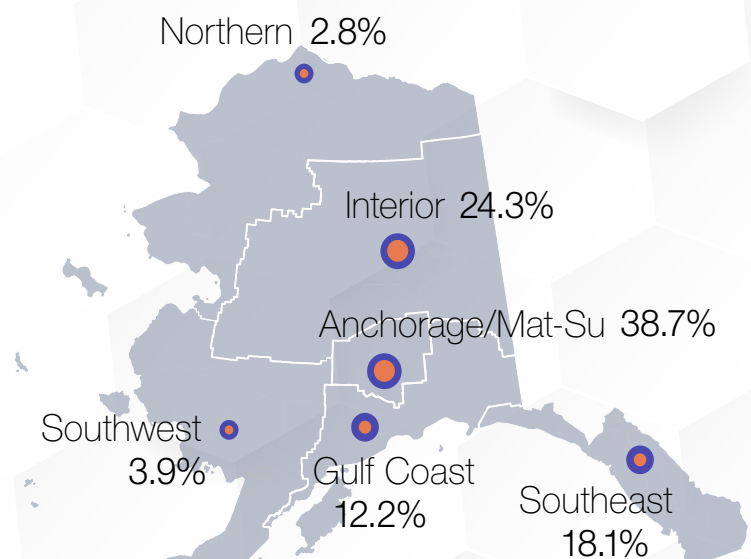
620 Environmental Sci/Specs

425 Zoologists/Wildlife Biologists

302 Forest/Conservation Techs

110 Life Scientists

Where do UA's fisheries and marine science grads work?



Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

FISHERIES AND MARINE SCIENCE AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska prepared data on the 21 programs that are particularly relevant to fisheries and marine science in Alaska. These include two that result in a certificate or licensure, one that results in an associate degree, and 18 that result in a bachelor's degree or above.

Over the last 10 years, 975 people have graduated from those programs with the following outcomes by degree type:

- **Licenses and Certificates:** 43 graduates, 32 employed in Alaska within a year of graduating, with average first-year wages of \$36,925
- **Associate Degrees:** 29 graduates, 20 employed in Alaska within a year of graduating, with average first-year wages of \$33,695
- **Bachelor's Degrees and Above:** 903 graduates, 644 employed in Alaska within a year of graduating, with average first-year wages of \$35,758 and average fifth-year wages of \$56,463

Three types of programs account for the largest share of graduates (41 percent) and warrant special mention:

- **Fisheries Technology** (two certificates and one associate at UAS): 72 graduates, 52 employed in Alaska within a year of graduating, with average first-year wages of \$35,675
- **Fisheries** (two bachelors, one master, and one doctorate program at UAF: 208 graduates, 141 employed in Alaska within a year of graduating, with average first-year wages of \$39,993 and average fifth-year wages of \$53,394
- **Marine Biology** (one master's and one doctorate at UAF, one bachelor's at UAS): 120 graduates, 92 employed in Alaska within a year of graduating, with average first-year wages of \$37,083 and average fifth-year wages of \$50,206

The relationship between UA programs and hiring in fisheries and marine science

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better-trained workers.

FISHERIES AND MARINE SCIENCE AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state.

The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: Why are fifth-year average wages unavailable for fisheries technology?

Although the first group of fisheries technology students graduated in 2009, there weren't enough graduates in the early years to meet the confidentiality threshold for reporting wages.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are informal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

FISHERIES AND MARINE SCIENCE AND UA GRADUATES FAST FACTS



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The 21 programs linked to fisheries and marine science

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Zoologists, Wildlife Biologists, Conservation Scientists, and Fish/Game Wardens (19-1023, 19-1031, 33-3031)	UAS	Fisheries Technology	Occupational Endorsement Cert	26*	18	\$39,447	-
	UAS	Fisheries Technology	Certificate	17*	14	\$32,600	-
	UAS	Fisheries Technology	Associate of Applied Science	29*	20	\$33,695	-
	UAF	Fisheries	Bachelor of Arts	16*	13	\$39,835	-
	UAF	Fisheries	Bachelor of Science	56*	52	\$32,555	\$49,408
	UAF	Fisheries	Master of Science	98	62	\$41,465	\$53,983
	UAF	Fisheries	Doctor of Philosophy	38*	14	\$57,192	\$59,796
	UAS	Marine Biology	Bachelor of Science	58	51	\$29,869	\$52,788
	UAF	Marine Biology	Master of Science	40	27	\$37,064	\$49,180
	UAF	Marine Biology	Doctor of Philosophy	22*	14	\$59,676	-
	UAF	Earth Science	Bachelor of Arts	19*	15	\$22,914	\$53,197
	UAA	Natural Sciences	Bachelor of Science	297	221	\$32,520	\$57,845
	UAF	Natural Resources Management	Bachelor of Science	78	55	\$28,272	\$45,707
	UAF	Natural Res Mgmt & Geography	Masters of Nat Res Mgmt Geog	13*	9	\$43,473	-
	UAF	Natural Resources Management	Master of Natural Resource Mgt	3*	3	-	-
	UAF	Natural Resources Management	Master of Science	47*	29	\$41,742	\$63,068
	UAF	Natural Res. & Sustainability	Doctor of Philosophy	13*	11	\$46,238	-
	UAF	Oceanography	Master of Science	14	9	-	-
	UAF	Oceanography	Doctor of Philosophy	11	6	\$63,909	-
	UAF	Wildlife Biol & Conservation	Bachelor of Science	55*	40	\$25,385	-
	UAF	Wildlife Biol & Conservation	Master of Science	25*	13	\$34,800	-

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



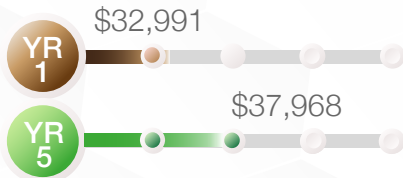
UNIVERSITY
of ALASKA
Many Traditions One Alaska

The University of Alaska has identified 50 programs whose graduates are important to the clinical and behavioral health industry in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA clinical health programs

CERTIFIED NURSE AIDE

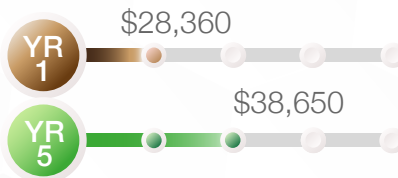
93.5% working in AK
within a year
of graduating



15.1% wage growth

DENTAL ASSISTANT

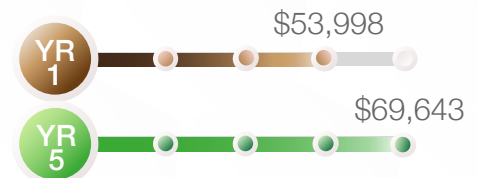
81.9% working in AK
within a year
of graduating



36.3% wage growth

NURSING

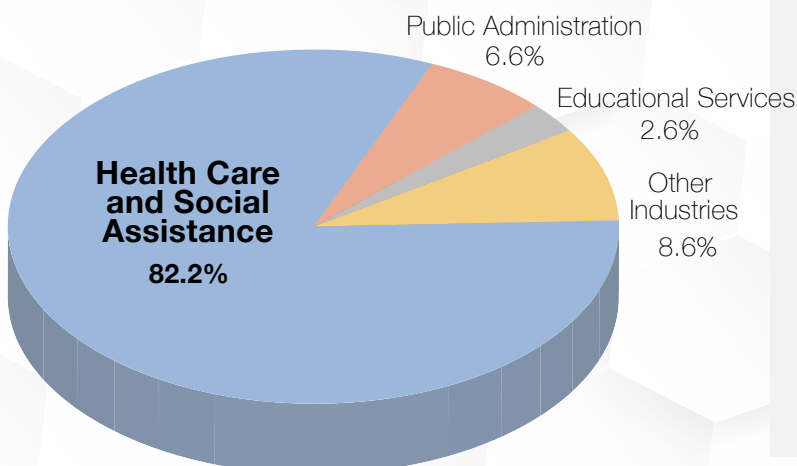
88.7% working in AK
within a year
of graduating



29.0% wage growth

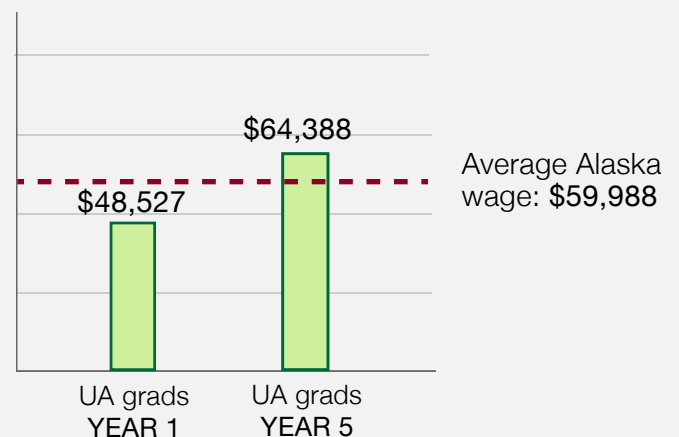
Note: Data reflects the actual employment and wage data of all graduates, and is not limited to those employed in clinical health

The industries where first-year clinical health grads work



Note: Graduates of all 31 key UA programs - Clinical Health

Program grads' average wages



THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



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Do these clinical health programs boost the Alaska hire rate?

96.8%

of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 88.7% for all clinical health workers

Over the last three years, the clinical health industry hired ...

3,849 Registered Nurses

2,240 Medical Assistants

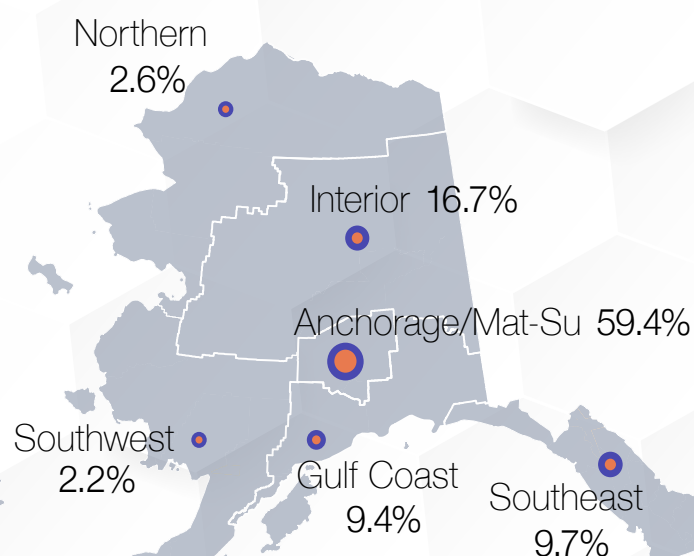
1,593 Nursing Assistants

1,299 Dental Assistants

1,013 Medical and Health Services
Managers

748 Training and Development
Managers

Where do UA's clinical health program grads work?



Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



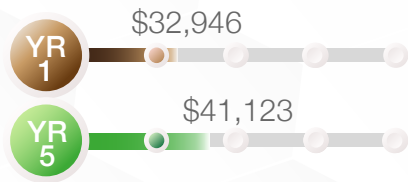
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The University of Alaska has identified 50 programs whose graduates are important to the clinical and behavioral health industry in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA behavioral health programs

HUMAN SERVICES

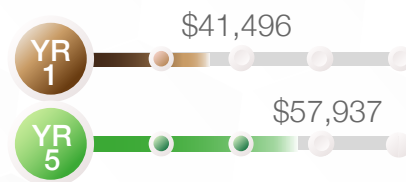
83.4% working in AK within a year of graduating



24.8% wage growth

SOCIAL WORK

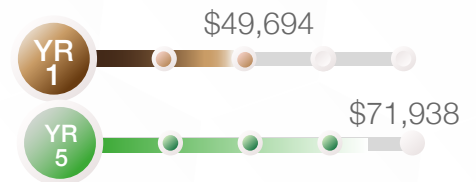
77.4% working in AK within a year of graduating



39.6% wage growth

CLINICAL PSYCHOLOGY

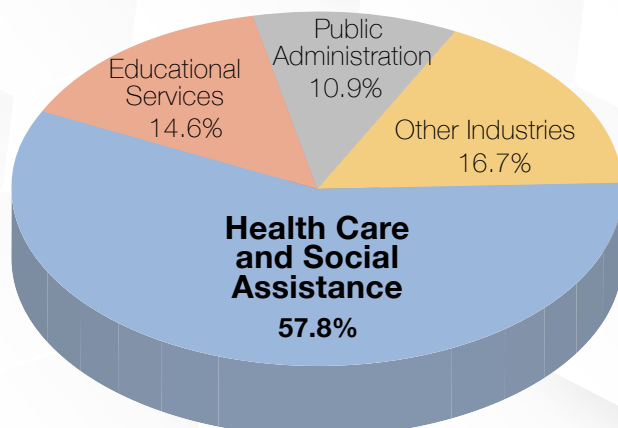
81.1% working in AK within a year of graduating



44.8% wage growth

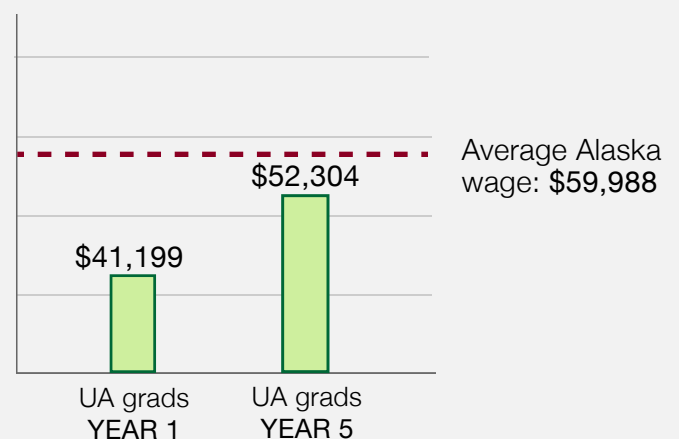
Note: Data reflects the actual employment and wage data of all graduates, and is not limited to those employed in behavioral health

The industries where first-year behavioral health grads work



Note: Graduates of all 19 key UA programs - Behavioral Health

Program grads' average wages



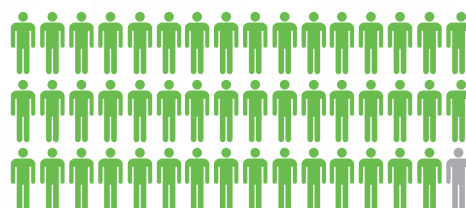
THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



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Do these behavioral health programs boost the Alaska hire rate?

96.6%
of working graduates
are Alaska residents



For comparison, residency is ...

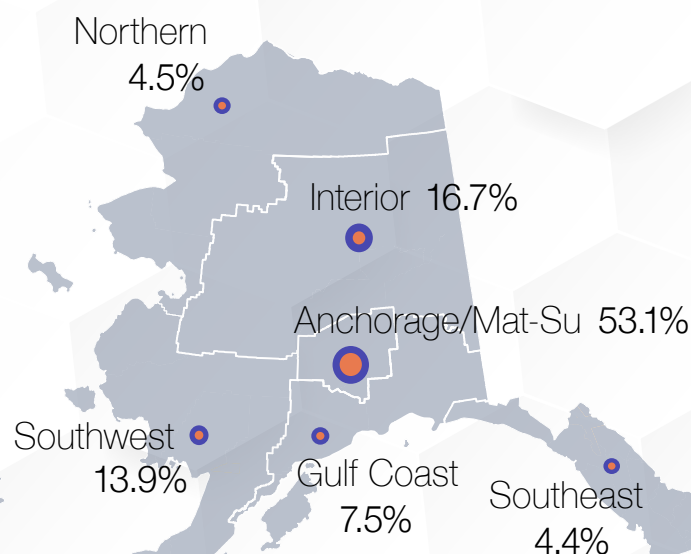
- 79.3% for all Alaska workers
- 83.0% for all behavioral health workers

Over the last three years, the behavioral health industry hired ...

921	Community and Social Service Specialists
849	Child, Family, and School Social Workers
301	Substance Abuse and Behavioral Disorder Counselors
294	Psychiatric Technicians
268	Social Workers
263	Counselors

Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

Where do UA's behavioral health program grads work?



THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska, in an effort to highlight and enhance the relationship between its programs and key Alaska industries, has prepared data on the 50 programs that are particularly relevant to the state's health industry. These include 21 that result in a certificate or license, 15 that result in an associate degree, and 14 that results in a bachelor's degree or above.

Over the last 10 years, 6,819 people have graduated from those programs with the following outcomes by degree type:

- **Licenses and Certificates:** 1,335 graduates, 1,114 employed in Alaska within a year of graduating with average first-year wages of \$38,917 and average fifth-year wages of \$45,811
- **Associate Degrees:** 2,744 graduates, 2,363 employed in Alaska within a year of graduating with average first-year wages of \$45,191 and average fifth-year wages of \$58,861
- **Bachelor's Degrees and Above:** 2,740 graduates, 2,187 employed in Alaska within a year of graduating with average first-year wages of \$50,481 and average fifth-year wages of \$65,888

Three types of programs account for the largest share (65.3 percent) of **Clinical Health** graduates and warrant special mention:

- **Certified Nurses Aide** (one certificate program at UAF and UAS): 231 graduates, 216 employed in Alaska within a year of graduating with average first-year wages of \$32,991 and average fifth-year wages of \$37,968
- **Dental Assistant** (one certificate and one associates at UAA and UAF): 210 graduates, 172 employed in Alaska within a year of graduating with average first-year wages of \$28,360 and average fifth-year wages of \$38,650
- **Nursing** (one associate, one bachelor, and one masters at UAA and one certificate at UAS): 2,341 graduates, 2,077 employed in Alaska within a year of graduating with average first-year wages of \$53,998 and average fifth-year wages of \$69,643

Three types of programs account for the largest share (76.1 percent) of **Behavioral Health** graduates and warrant special mention:

- **Human Services** (one associate and one bachelor at UAA, one certificate and two associates at UAF): 992 graduates, 827 employed in Alaska within a year of graduating with average first-year wages of \$32,964 and average fifth-year wages of \$41,123
- **Social Work** (one bachelor and one master at UAA, one bachelor at UAF): 637 graduates, 493 employed in Alaska within a year of graduating with average first-year wages of \$41,496 and average fifth-year wages of \$57,937
- **Clinical Psychology** (one master and one PhD program at UAA, one PhD program at UAF): 159 graduates, 129 employed in Alaska within a year of graduating with average first-year wages of \$49,694 and average fifth-year wages of \$71,938

The relationship between UA programs and hiring in health

In an industry where thousands of people have been hired over the last several years, the University of Alaska health programs have been very focused on meeting the demand. Over the last ten years, 75.7% of the students who found employment during the first year after graduating from a health program worked in healthcare.

THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: What percentage of healthcare hires are UA grads?

Those types of questions can be answered only for specific program graduates or specific industry occupations, based on the long-running collaboration between the University of Alaska and the Department of Labor and Workforce Development. It's less useful to lump all the programs and degree types together.

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state.

The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: How were the programs and target occupations selected?

The University of Alaska analyzed labor market information to determine the largest and fastest-growing occupations in the health industry, then linked 50 programs based on occupations' titles and characteristics. While other UA programs also provide some preparation for health industry jobs, this report excludes general administrative training programs that are useful for all sectors, such as accountants and human resource professionals.

Q. How does UA support health workforce needs in disciplines they don't have an academic program?

UA partners with other universities to provide opportunities in Alaska for students to pursue health careers for which UA does not have an academic program. For example, WWAMI is a collaborative medical school among universities in five northwestern states, Washington, Wyoming, Alaska, Montana, and Idaho and the University of Washington School of Medicine. Other examples would be the Idaho State University (ISU) Doctor of Pharmacy program which is a collaborative program between UAA and the ISU College of Pharmacy and also the Creighton University-UAA occupational therapy partnership program. UA also has a collaborative program with East Carolina University's distance education Master of Science in Communication Sciences and Disorders program and the MEDEX/Physician Assistant graduate program with the University of Washington.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are less formal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better trained workers.

This report is a collaboration among UA Workforce Development, UA Data Strategy and Institutional Research, and the Alaska Department of Labor and Workforce Development's Research and Analysis Section. For more information, visit <https://www.alaska.edu/research/wd/>.

THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



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The 31 programs linked to clinical health

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Registered Nurses (29-1141)	UAS	Nursing	Certificate	41	34	\$38,740	\$71,803
	UAA	Nursing	Associate of Applied Science	1,007	910	\$52,666	\$67,336
	UAA	Nursing Science	Bachelor of Science	1,158	1,019	\$52,229	\$68,779
	UAA	Nursing Science	Master of Science	135	114	\$81,408	\$97,552
Nursing Assistants & Home Health Aides (31-1014, 31-1011)	UAF	Nurse Aide	Occupational Endorsement Cert	113*	106	\$35,604	\$37,968
	UAS	Certified Nurse Aide	Occupational Endorsement Cert	118*	110	\$30,343	-
Medical Assistants (31-9092)	UAF	Medical Assistant	Certificate	196	155	\$32,881	\$42,277
	UAS	Medical Assisting	Certificate	19*	17	\$42,533	-
	UAA	Medical Assisting	Associate of Applied Science	170	152	\$31,829	\$43,458
	UAF	Medical Assistant	Associate of Applied Science	143	119	\$35,181	\$42,778
Billing and Posting Clerks & Medical Records Technicians (43-3021, 29-2071)	UAA	Medical Office Coding	Occupational Endorsement Cert	74*	44	\$38,012	\$51,497
	UAF	Medical Billing	Occupational Endorsement Cert	21*	14	\$38,806	-
	UAF	Medical Coding	Occupational Endorsement Cert	42*	31	\$35,183	\$52,145
	UAS	Healthcare Information Tech	Occupational Endorsement Cert	44*	25	\$36,812	-
	UAS	Healthcare Privacy & Security	Certificate	37*	21	\$42,933	-
	UAS	Health Info Mgt Coding Spec	Certificate	79*	54	\$43,586	\$45,476
Dental Assistants (31-9091)	UAA	Dental Assisting	Certificate	75	63	\$25,353	\$39,213
	UAF	Dental Assistant	Certificate	37*	31	\$31,184	-
	UAA	Dental Assisting	Associate of Applied Science	74	59	\$30,235	\$41,214
	UAF	Dental Assistant	Associate of Applied Science	24*	19	\$27,965	-
Medical and Health Services Managers (11-9111)	UAS	Health Information Mgt	Associate of Applied Science	95	68	\$46,558	\$54,608
Dental Hygienists (29-2021)	UAA	Dental Hygiene	Associate of Applied Science	124*	114	\$56,945	\$69,282
	UAA	Dental Hygiene	Bachelor of Science	57*	51	\$66,292	\$80,109
Radiologic Technicians (29-2034, 29-2035)	UAS	Pre-Radiologic Technology	Occupational Endorsement Cert	8	6	-	-
	UAA	Limited Radiography	Occupational Endorsement Cert	32*	26	\$58,347	\$53,794
	UAA	Diagnostic Medical Sonography	Certificate	17*	15	\$67,896	-
	UAA	Radiologic Technology	Associate of Applied Science	183	166	\$47,466	\$57,278
Clinical Laboratory Technicians (29-2018)	UAA	Medical Laboratory Technology	Associate of Applied Science	39	34	\$36,525	\$48,746
	UAA	Medical Laboratory Science	Bachelor of Science	77*	63	\$58,447	-
Emergency Medical Technicians and Paramedics (29-2041)	UAA	Paramedical Tech	Associate of Applied Science	157	134	\$56,552	\$88,176
	UAF	Paramedicine	Associate of Applied Science	53*	42	\$55,298	-

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

THE HEALTH INDUSTRY AND UA GRADUATES FAST FACTS



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The 19 programs linked to behavioral health

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Social Workers (21-1023, 21-1029, 21-1022, 21-1021)	UAF	Social Work	Bachelor of Arts	199	149	\$40,160	\$56,763
	UAA	Social Work	Bachelor of Social Work	211	165	\$33,486	\$51,447
	UAA	Social Work	Master of Social Work	227	179	\$48,580	\$62,451
Community Health Workers, Managers, & Educators (21-1094, 11-9151, 21-1091)	UAA	Clinical Psychology	Master of Science	132	109	\$42,576	\$64,314
	UAA	Clinical-Community Psychology	Doctor of Philosophy	12*	8	\$75,346	-
	UAF	Clinical-Community Psychology	Doctor of Philosophy	15*	12	\$78,984	\$100,986
Social and Human Service Assistants (21-1093)	UAF	Rural Human Services	Certificate	201	195	\$36,600	\$36,540
	UAA	Human Services	Associate of Applied Science	424	323	\$27,895	\$42,514
	UAF	Human Services	Associate of Applied Science	112	91	\$31,963	\$36,216
	UAF	Human Services w/RHS Cert	Associate of Applied Science	68	65	\$39,616	\$40,199
	UAA	Human Services	Bachelor of Human Services	181	153	\$34,910	\$45,719
Substance Abuse, Behavioral Disorder, and Mental Health Counselors (21-1018)	UAF	Community Health	Certificate	149*	145	\$53,474	\$53,248
	UAF	Community Health	Associate of Applied Science	32*	30	\$60,617	\$57,541
	UAA	Public Health Practice	Master of Public Health	100*	64	\$58,645	\$59,080
Clinical Counseling and School Psychologists (19-3031)	UAA	Counselor Education	Master of Education	116	99	\$47,447	\$38,740
	UAF	Counseling	Master of Education	120*	91	\$48,562	\$38,740
	UAA	Counselor Education	Graduate Certificate	6*	5	-	-
	UAA	Children's Mental Health	Graduate Certificate	17*	15	\$53,019	-
	UAF	Counseling	Graduate Licensure Program	20*	17	\$51,935	\$60,867

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

THE IT INDUSTRY AND UA GRADUATES FAST FACTS



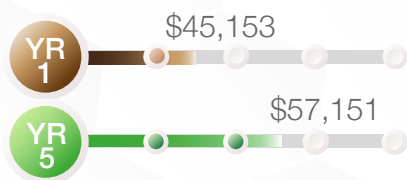
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The University of Alaska has identified 14 programs whose graduates are important to the information technology (IT) industry in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

INFORMATION TECHNOLOGY

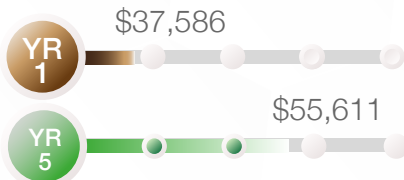
77.1% working in AK within a year of graduating



26.6% wage growth

COMPUTER & NETWORKING TECH

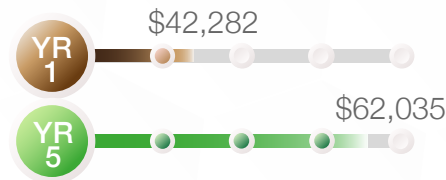
80.2% working in AK within a year of graduating



48.0% wage growth

COMPUTER SCIENCE & ENGINEERING

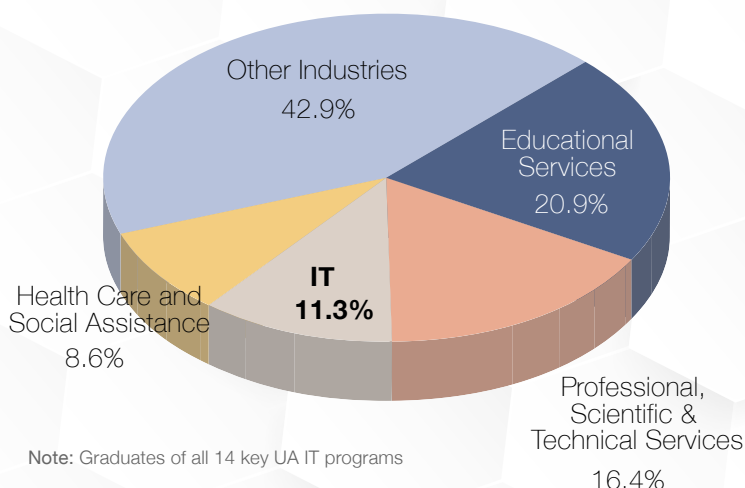
72.3% working in AK within a year of graduating



46.7% wage growth

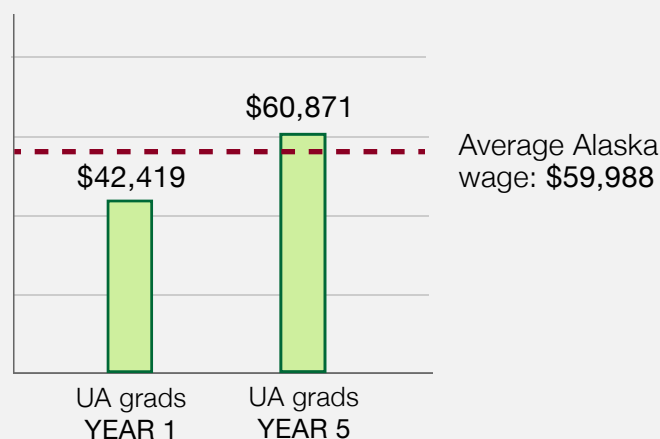
Note: Data reflects the actual employment and wage data of all graduates working in Alaska, and is not limited to those employed in IT

The industries where first-year graduates work



Note: Graduates of all 14 key UA IT programs

Program grads' average wages



THE IT INDUSTRY AND UA GRADUATES FAST FACTS



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Do these programs boost the Alaska hire rate?

95.5%
of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 90.5% for all IT* services workers

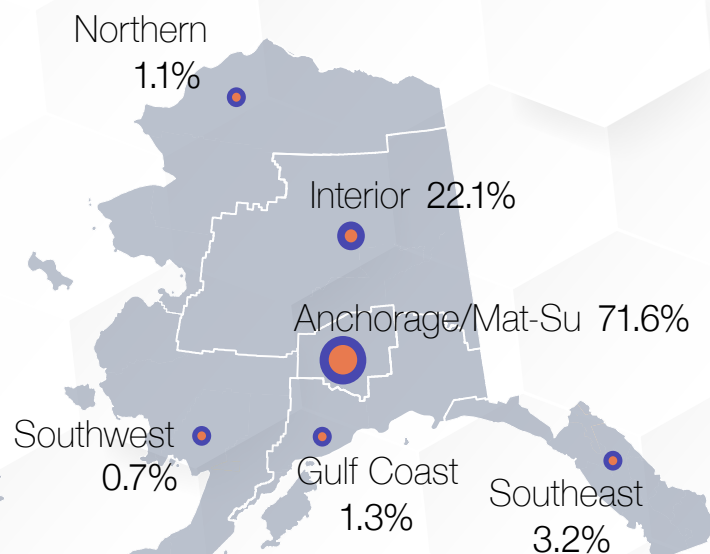
* (Professional, Scientific, & Technical Services)

Over the last three years, the IT industry hired ...

- 151** Computer User Support
- 108** Computer Network Support
- 87** Network/Computer System Administrators
- 72** Software Developers
- 70** Computer, Automated Teller, and Office Machine Repairers

Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

Where do UA's IT program grads work?



THE IT INDUSTRY AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska, in an effort to highlight and enhance the relationship between its programs and key Alaska industries, has prepared data on the 14 programs that are particularly relevant to the state's information technology industry. These include three that result in a certificate or occupational endorsement, four that result in an associate degree, and seven that result in a bachelor's degree or higher.

Over the last 10 years, 889 people have graduated from those programs with the following outcomes by degree type:

- **Licenses and Certificates:** 173 graduates, 135 employed in Alaska within a year of graduating with average first-year wages of \$36,168 and average fifth-year wages of \$56,003
- **Associate Degrees:** 343 graduates, 277 employed in Alaska within a year of graduating with average first-year wages of \$41,936 and average fifth-year wages of \$57,931
- **Bachelor's Degrees and Above:** 373 graduates, 278 employed in Alaska within a year of graduating with average first-year wages of \$45,863 and average fifth-year wages of \$66,937

Three types of programs account for the largest share (85 percent) of graduates and warrant special mention:

- **Information Technology** (one certificate and one associate at UAF): 131 graduates, 101 employed in Alaska within a year of graduating with average first-year wages of \$45,153 and average fifth-year wages of \$57,151
- **Computer & Networking Technology** (two certificates and two associates at UAA): 353 graduates, 283 employed in Alaska within a year of graduating with average first-year wages of \$37,586 and average fifth-year wages of \$55,611
- **Computer Science & Engineering** (three bachelors at UAA, two bachelors and one master at UAF): 274 graduates, 198 employed in Alaska within a year of graduating with average first-year wages of \$42,282 and average fifth-year wages of \$62,035

The relationship between UA programs and hiring in IT

IT occupations are spread throughout many of the industries in Alaska. Only about 12% of the University of Alaska IT program graduates found employment in the IT industry, but have worked in IT occupations in other industries including educational services and public administration. For example, 44% of the graduates became computer programmers in the public administration industry sector.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better trained workers.

THE IT INDUSTRY AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state.

The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: How were the programs and target occupations selected?

The University of Alaska analyzed labor market information to determine the largest and fastest-growing occupations in the IT industry, then linked 14 programs based on occupations' titles and characteristics. While other UA programs also provide some preparation for IT jobs, this report excludes general administrative training programs that are useful for all sectors, such as accountants and human resource professionals.

Q: Are there emphasis areas embedded within degree programs that also provide targeted training towards high growth occupations in this industry sector?

Yes, several degree programs provide options for students to specialize in an emphasis area that can enhance their education and employability. For example, a business degree can offer an emphasis area in management information systems that could lead to a career as a computer systems analyst and manager.

Q: What percentage of IT hires are UA grads?

Those types of questions can be answered only for specific program graduates or specific industry occupations, based on the long-running collaboration between the University of Alaska and the Department of Labor and Workforce Development. It's less useful to lump all the programs and degree types together.

Q: Why are the wages shown on page one and page five lower than what other published data show for average starting salaries in IT occupations?

The wage data shown are the actual wages that program graduates earned in the full first and fifth year after they graduated and there are technical reasons why the wages shown here will generally be lower than average starting salaries. Graduates who did not work in all four quarters of the first year after graduating or in all four quarters in the fifth year after graduating were not included in the wage data. They are included if they worked part-time or only worked for part of one or more the quarters as long as they worked in all four quarters. Data showing average starting salaries for certain occupations can inform prospective students about how much they can make if they find and take a job in that occupation. The wage data shown here, however, comprehensively quantify the wages actually earned by the graduates who have graduated in recent years, irrespective of what kind of job they took. Both types of wage data have valid purposes and encourage additional research when they diverge.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are less formal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

This report is a collaboration among UA Workforce Development, UA Data Strategy and Institutional Research, and the Alaska Department of Labor and Workforce Development's Research and Analysis Section. For more information, visit <https://www.alaska.edu/research/wd/>.

THE IT INDUSTRY AND UA GRADUATES FAST FACTS



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The 14 programs linked to IT

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Software Developers and Programmers (15-1132, 15-1133, 15-1131)	UAA	Computer Science	Bachelor of Arts	16*	13	\$40,858	-
	UAA	Computer Science	Bachelor of Science	102	77	\$44,851	\$63,755
	UAF	Computer Science	Bachelor of Science	101*	68	\$35,427	\$57,900
	UAA	Computer Systems Engineering	Bachelor of Science	11*	9	\$48,473	-
	UAF	Computer Engineering	Bachelor of Science	16*	8	-	-
Computer Systems Analysts and Managers (15-1121, 11-3021)	UAF	Computer Science	Master of Science	28*	23	\$49,626	\$64,636
	UAA	Business Computer Info Systems	Associate of Applied Science	32	28	\$47,829	\$76,573
	UAA	Management Information Systems	Bachelor of Business Admin.	99	80	\$53,192	\$77,923
Network and Computer Systems Administrators and Support Specialists (15-1142, 15-1152)	UAA	Cisco Cert Network Associate	Occupational Endorsement Cert	144	114	\$35,075	\$54,789
	UAA	Computer & Networking Tech	Certificate	11	8	\$35,869	\$55,346
	UAA	Computer & Networking Tech	Associate of Applied Science	145*	118	\$39,960	\$59,943
	UAA	Computer Systems Tech.	Associate of Applied Science	53*	43	\$37,085	\$53,751
Computer User Support Specialists (15-1151)	UAF	Info Technology Specialist	Certificate	18*	13	\$45,839	\$71,225
	UAF	Info Technology Specialist	Associate of Applied Science	113	88	\$45,062	\$55,141

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

THE MINING INDUSTRY AND UA GRADUATES FAST FACTS



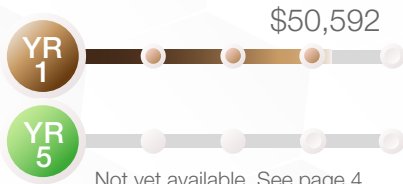
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The University of Alaska has identified 44 programs whose graduates are important to the mining industry in Alaska. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

MINING OPERATOR

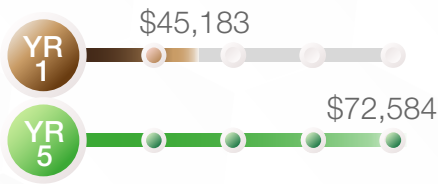
86.8% working in AK
within a year
of graduating



Not yet available. See page 4 for more information.

POWER TECHNOLOGY

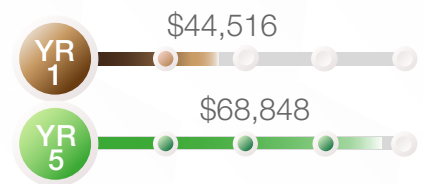
89.6% working in AK
within a year
of graduating



60.6% wage growth

GEOLOGICAL SCIENCES

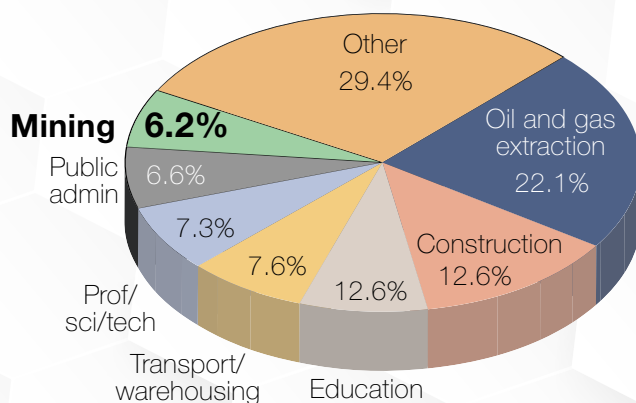
63.4% working in AK
within a year
of graduating



54.7% wage growth

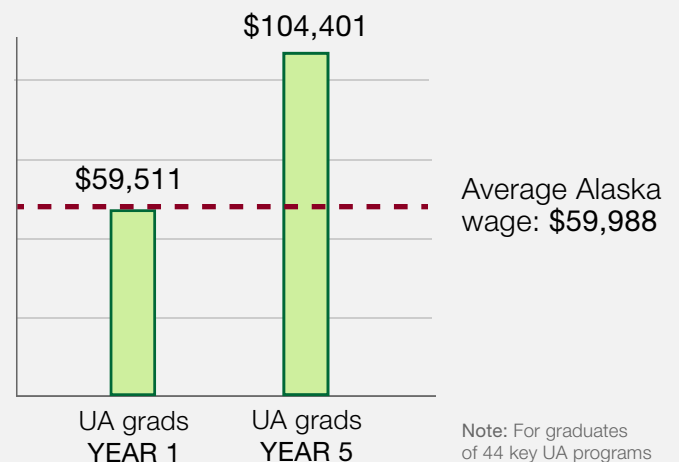
Note: Employment and wage data not limited to graduates who work in mining

The industries where first-year graduates work



Note: Graduates of all 44 key UA programs

Program grads' average wages



Note: For graduates of 44 key UA programs

THE MINING INDUSTRY AND UA GRADUATES FAST FACTS



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Do these programs boost the Alaska hire rate?

92.7%
of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 65.3% for all mining workers

Over the last three years, the mining industry hired ...

135 Mining/Geological Engineers

87 Geoscientists

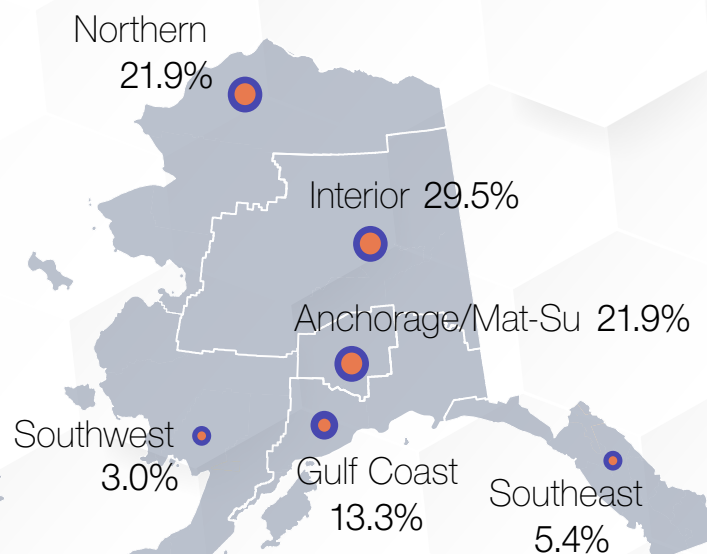
81 Geological Technicians

77 Heavy/Tractor Truck Drivers

39 Chemical Technicians

29 Environmental Eng Techs

Where do UA's mining program grads work?



Notes: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

THE MINING INDUSTRY AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for those with graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska prepared data on the 44 programs that are important to the mining industry, including 21 that result in a certificate or licensure, 10 that result in an associate degree, and 13 that result in a bachelor's degree or above.

Over the last 10 years, 2,319 people have graduated from those programs, with the following outcomes by degree type:

- **Certificates:** 756 graduates, 650 employed in Alaska within a year of graduating, with average first-year wages of \$47,411 and average fifth-year wages of \$79,517
- **Associate Degrees:** 1,101 graduates, 972 employed in Alaska within a year of graduating, with average first-year wages of \$68,449 and average fifth-year wages of \$119,504
- **Bachelor's Degrees and Above:** 597 graduates, 415 employed in Alaska within a year of graduating, with average first-year wages of \$55,340 and average fifth-year wages of \$78,366

Three types of programs account for 25 percent of graduates and warrant special mention:

- **Mining Operator** (six certificates at UAF): 68 graduates, 59 employed in Alaska within a year of graduating, with average first-year wages of \$50,592
- **Power Technology** (one certificate and one associate at UAS, three certificates at UAF, and two certificates and two associates at UAA): 336 graduates, 301 employed in Alaska within a year of graduating, with average first-year wages of \$45,183 and average fifth-year wages of \$72,584
- **Geological Sciences** (two bachelors, two masters, and two Ph.D. programs at UAF, and one bachelor at UAA): 325 graduates, 206 employed in Alaska within a year of graduating, with average first-year wages of \$44,516 and average fifth-year wages of \$68,848

The relationship between UA programs and mining hiring

Graduates from the mining programs don't necessarily go to the mining industry, as many learn crossover skills. Engineers, for example, work for mining companies but also for consulting firms and the state and federal governments. Their specific occupations vary widely, but their engineering credentials are clearly relevant to most of them.

The connection between a university program such as construction management and the occupations into which those graduates are hired is even more complicated. Although the data show strong demand for those graduates (86 percent find work within a year of graduating) and impressively high earnings (about \$62,000 to start and \$78,000 by their fifth year), they are hired into a variety of occupations and by a number of industries including mining, construction, and professional services.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better-trained workers.

THE MINING INDUSTRY AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: Where do the employment numbers come from?

The University of Alaska and the Alaska Department of Labor and Workforce Development's Research and Analysis Section have worked together for years to identify where university graduates are working in the state.

The detailed employment and wage information comes from quarterly reports that nearly all Alaska employers are required to file under state employment insurance law. Those records do not include federal workers or the self-employed, so university program graduates in those categories are not shown here.

Q: Why is the percentage of geological science graduates who find work in Alaska lower than for other graduates?

The main reason is that UA geological science graduates are more likely to find work outside Alaska or even outside the United States than welding or process tech graduates. Keep in mind the data shown here for employment and wages are solely for the graduates who show up in Alaska employment and wage data.

Q: Why are fifth-year average wages unavailable for mining operators?

These students come from the UAF Mining and Petroleum Training Service (MAPTS), which provides noncredit training. Data collection for these students that would allow matching to employment outcomes only became available in 2017.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are informal insights and information gathered from industry and other key stakeholders. When making key decisions about university programs, it will also be important to consider the most recent developments in the economy that can't yet be measured.

THE MINING INDUSTRY AND UA GRADUATES FAST FACTS



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The 44 programs linked to mining

Target occupations	University	Major	Degree	Graduates	Employed in AK within a year	1st-year avg wage	5th-year avg wage
Mining Mach Operators, Operating Engrs, Extraction Wkrs, Continuous Mining Machine Operators, Setters, Svc Unit & Plant Operators (47-5049, 47-2073, 47-5099, 47-5041, 51-9012, 47-5013, 51-8099)	UAF	Underground Mine Training	Noncredit Certification	14*	12	64,309	-
	UAF	Roustabout	Noncredit Certification	10*	10	47,402	-
	UAF	Pipeline Construction Support	Noncredit Certification	10*	9	-	-
	UAF	Surface Mine Training	Noncredit Certification	7*	6	-	-
	UAF	Mining Mill Operations	Noncredit Certification	27*	22	\$ 44,364	-
	UAF	Mining Mill Operations	Occupational Endorsement Cert	27*	22	\$44,364	-
Maintenance/Repair Workers, Industrial Machinery Mechanics, Machinery Maintenance, Mobile Heavy Equipment & Diesel Mechanics (49-9071, 49-9041, 49-9043, 49-3042, 49-3031)	UAF	CTT: Facilities Maintenance	Occupational Endorsement Cert	77*	71	\$33,094	-
	UAS	Power Technology	Occupational Endorsement Cert	17*	15	\$55,839	-
	UAA	Heavy Duty Trans & Equip	Certificate	28	22	\$47,447	\$55,523
	UAA	Mech & Electrical Technology	Certificate	2*	2	-	-
	UAF	Diesel/Heavy Equipment	Certificate	132	121	\$46,525	\$81,060
	UAF	Power Generation	Certificate	13	10	-	\$88,139
	UAA	Diesel Power Technology	Associate of Applied Science	3*	3	-	-
	UAA	Heavy Duty Trans & Equip	Associate of Applied Science	25	23	\$48,642	\$76,193
1st-Line Supervisors of Const Trades & Extraction; Mechanics, Installers, & Repairers; Production Wkrs (47-1011, 49-1011, 51-1011)	UAS	Power Technology	Associate of Applied Science	39	34	\$50,475	\$64,727
	UAA	Construction Management	Associate of Applied Science	31	27	\$50,682	\$72,956
	UAF	Construction Management	Associate of Applied Science	55	48	\$57,178	\$65,284
	UAA	Construction Management	Bachelor of Science	149	128	\$66,258	\$85,526
Welders, Cutters, Solderers, & Brazers (51-4121)	UAA	Advanced Welding	Occupational Endorsement Cert	27*	21	\$42,597	-
	UAA	Nondestructive Testing Tech	Occupational Endorsement Cert	52*	47	\$52,773	-
	UAA	Welding	Occupational Endorsement Cert	52*	44	\$42,540	-
	UAF	Entry Level Welder	Occupational Endorsement Cert	87	70	\$39,551	\$64,225
	UAS	Welding	Occupational Endorsement Cert	62*	49	\$35,868	-
	UAA	Welding Technology	Certificate	30	22	\$47,878	-
	UAA	Weld & Nondestruct Test Tech	Associate of Applied Science	77	67	\$46,429	\$74,149
Geoscientists, except Hydrologists/Geographers (21-1012)	UAF	Earth Science	Bachelor of Arts	19	15	\$22,914	\$53,197
	UAF	Geoscience	Bachelor of Science	44*	33	\$47,737	-
	UAA	Geological Sciences	Bachelor of Science	135	100	\$38,280	\$55,624
	UAF	Geology	Master of Science	42	22	\$65,955	\$114,784
	UAF	Geophysics	Master of Science	32	17	\$57,117	-
	UAF	Geology	Doctor of Philosophy	20	6	\$52,356	-
	UAF	Geophysics	Doctor of Philosophy	33	13	\$46,842	-
Geological & Petroleum and Chemical Technicians (19-4041, 19-4031)	UAA	Petroleum Technology	Certificate	38	34	\$65,803	\$119,160
	UAF	Instrumentation Technology	Certificate	68	61	\$57,255	\$97,735
	UAA	Industrial Proc Instrum	Associate of Applied Science	80	69	\$70,255	\$123,388
	UAA	Industrial Technology	Associate of Applied Science	18	15	\$68,488	\$72,092
	UAA	Process Technology	Associate of Applied Science	546	494	\$77,768	\$140,711
	UAF	Process Technology	Associate of Applied Science	227	192	\$63,347	\$107,795
Millwrights (49-9004)	UAA	Millwright	Occupational Endorsement Cert	3*	2	-	-
Mining & Geological Engineers, Including Mining Safety (17-2151)	UAF	Geological Engineering	Bachelor of Science	59	43	\$56,010	\$86,910
	UAF	Mining Engineering	Bachelor of Science	38	25	\$72,508	-
	UAF	Environmental Engineering	Master of Science	13	10	\$58,516	-
	UAF	Mining Engineering	Master of Science	9	1	-	-
	UAF	Mineral Preparation Engineer	Master of Science	4	2	-	-

*Program had not yet existed for 10 years

Note: Graduate numbers are for 2009 through 2018. When wages aren't shown for a program, it's because it had too few graduates.

THE OIL AND GAS INDUSTRY AND UA GRADUATES FAST FACTS



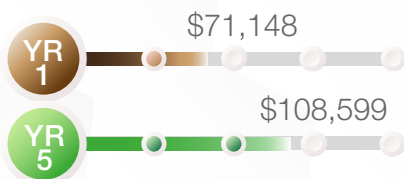
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The University of Alaska has identified 54 programs whose graduates are important to the oil and gas industry. Detailed below are their employment and wage outcomes, plus other information that can be used to assess UA programs and their usefulness to one of the state's key industries.

Graduates from key UA programs

ENGINEERING

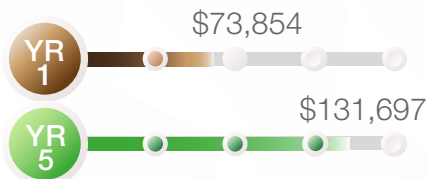
67% working in AK
within a year
of graduating



52.6% wage growth

PROCESS TECH

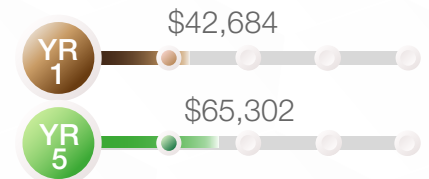
89% working in AK
within a year
of graduating



78.3% wage growth

WELDING

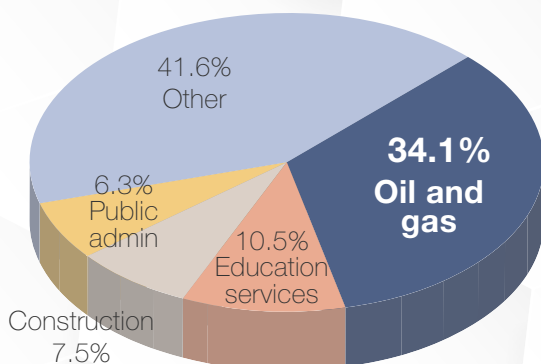
82% working in AK
within a year
of graduating



53.0% wage growth

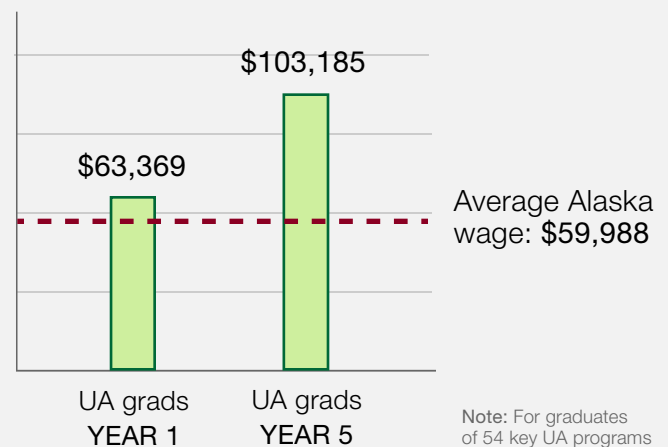
Note: Employment and wage data not limited to graduates who work in the oil and gas industry

The industries where first-year graduates work



Notes: Graduates of all 54 key UA programs. Oil and gas includes related sectors such as pipeline construction/transportation and engineering services.

Grads' wages above average



THE OIL AND GAS INDUSTRY AND UA GRADUATES FAST FACTS



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Do these programs boost the Alaska hire rate?

93.5%
of working graduates
are Alaska residents



For comparison, residency is ...

- 79.3% for all Alaska workers
- 70.9% for oil and gas workers

Over the last 3 years, the oil and gas industry hired ...

485 Geological technicians*
(includes process operators)

241 Engineers

231 Petroleum engineers

80 Occupational health
and safety specialists

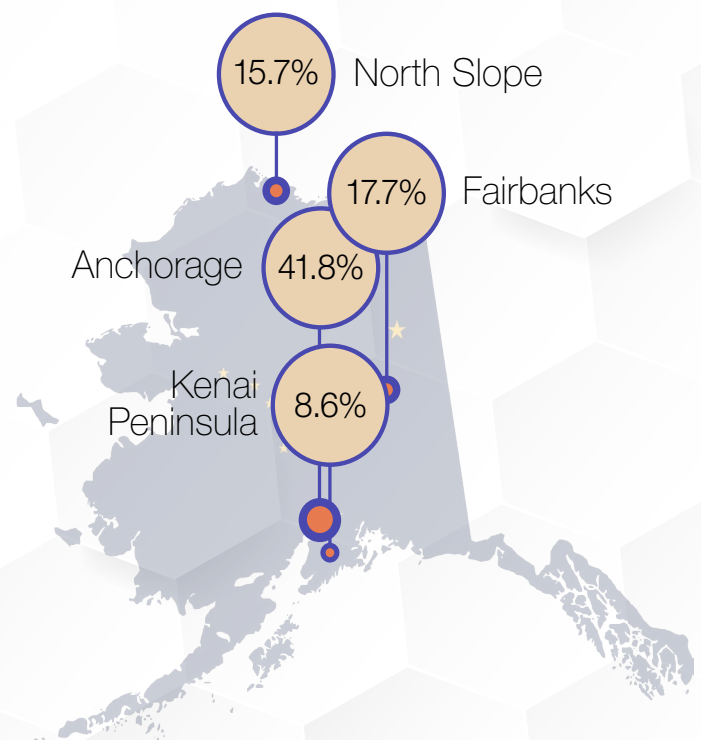
70 Mining/geological engineers

62 Environmental scientists

Note: These occupations have had the most hires in the past three years among occupations that require postsecondary education. Hires include all hires, not just UA grads, to identify where demand is greatest.

*Geological technicians assist scientists and engineers with exploring and extracting natural resources such as oil and natural gas, and with identifying sustainable well locations.

Where do program grads work?



THE OIL AND GAS INDUSTRY AND UA GRADUATES FAST FACTS



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More information on programs and the industry connection

The economic value of training and education is abundantly clear in the relevant data. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

The University of Alaska, in an effort to highlight and enhance the relationship between its programs and key Alaska industries, has prepared data on the 54 programs that are particularly relevant to the state's oil and gas industry. These include 18 that result in a certificate or occupational endorsement, 11 that result in an associate degree, and 25 that result in a bachelor's degree or above.

From 2009 through 2018, 3,651 people graduated from those programs with the following outcomes by degree type:

- **Licenses and Certificates:** 526 graduates, 437 employed in Alaska within a year of graduating with average first-year wages of \$48,495 and average fifth-year wages of \$76,713
- **Associate Degrees:** 1,305 graduates, 1,124 employed in Alaska within a year of graduating with average first-year wages of \$65,029 and average fifth-year wages of \$109,389
- **Bachelor's Degrees and Above:** 1,820 graduates, 1,208 employed in Alaska within a year of graduating with average first-year wages of \$67,092 and average fifth-year wages of \$102,309

Three types of programs account for the largest share of graduates (72 percent) and warrant special mention:

- **Welding** (five certificate programs at UAA, one at UAF, and one at UAS): 335 graduates, 273 employed in Alaska within a year of graduating with average first-year wages of \$42,684 and average fifth-year wages of \$65,302
- **Process Technology** (an associate degree program at UAA and UAF): 773 graduates, 686 employed in Alaska within a year of graduating with average first-year wages of \$73,854 and average fifth-year wages of \$131,697
- **Engineering** (17 programs combined at UAA and UAF including seven bachelor's degree programs, eight master's degree programs, and two Ph.D. programs): 1,495 graduates, 1,002 employed in Alaska within a year of graduating with average first-year wages of \$71,148 and average fifth-year wages of \$108,599

The relationship between UA programs and oil and gas hiring

Although it can be tempting to draw straight lines between education and training programs and the occupational demand in key industries, the data consistently reveal a more complicated relationship. Engineers, for example, are hired by oil and gas companies but also by construction companies, geological consulting firms, and the state and federal government. The specific occupations into which they are hired vary widely, but their engineering credentials are clearly relevant to most of them.

The connection between a university program such as process technology and the occupations into which those graduates are hired is even more complicated. Although the data show a strong demand for those graduates (90 percent find work within a year of graduating) and impressively high earnings (\$73,854 to start and more than \$130,000 by their fifth year), they are hired into a variety of occupations and by a number of industries including oil and gas, mining, and construction.

Attempts to precisely match the supply of graduates with the demand for certain workers by industry would be misguided, but the data shown here are appropriate for general conclusions about the benefits of certain UA programs. More importantly, this information can help facilitate conversations with key industries about how programs could be expanded, changed, or developed to provide them with more and better-trained workers.

THE OIL AND GAS INDUSTRY AND UA GRADUATES FAST FACTS



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Related questions and answers

Q: How were the programs and target occupations selected?

The University of Alaska analyzed labor market information to determine the largest and fastest-growing occupations in the oil and gas industry, then linked 54 programs based on occupations' titles and characteristics. While other UA programs also provide some preparation for oil and gas jobs, this report excludes general administrative training programs that are useful for all sectors, such as accountants and human resource professionals.

Q: What percentage of oil and gas hires are UA grads?

Those types of questions are better answered for specific programs and occupations than for all programs and occupations lumped together. The oil and gas industry hires a variety of workers, many for positions that don't require degrees or certificates, and the UA program graduates work for a variety of industries in addition to oil and gas.

Q: How will the current economic downturn in the oil and gas industry affect employment of UA graduates in the coming years?

Although the pandemic has resulted in the loss of thousands of oil and gas jobs, it's too early to say if or when they will come back or what growth rate we can anticipate going forward. The focus here is on recent trends in program participation and industry hiring. When making decisions about university programs, it will also be important to consider the most recent developments in key industries. While the short-term outlook is uncertain, there's little doubt the oil and gas industry will continue to need skilled workers long-term.

Q: Why is the percentage of engineering graduates who find work in Alaska lower than for welding or process tech graduates?

The main reason is that the numbers shown here are only for graduates working in Alaska, and UA engineering graduates qualified to work in oil and gas industry are more likely than welding or process tech graduates to find work outside the state or even outside the country.

Q: Can this information be used for program evaluation?

It can inform those types of decisions, as well as decisions about which programs to expand, but there's far more to consider than which programs have the highest earnings or best employment outcomes. Other data such as short-term and long-term industry and occupational projections, enrollment numbers, and tuition and program costs are important, and so are less formal insights and information gathered from industry and other key stakeholders. When making major decisions about university programs, it will be important to factor in the most recent developments in the economy, which can't yet be measured.

Q: Where do the employment numbers come from?

The Alaska Department of Labor and Workforce Development collects wage data from the quarterly Unemployment Insurance Tax and Wage Report that nearly all employers are required to file. (It excludes the federal government and the self-employed.) The records include Social Security Numbers, quarterly wages, and nationally defined codes for area, industry, and occupation.

This report is a collaboration among UA Workforce Development, UA Data Strategy and Institutional Research, and the Alaska Department of Labor and Workforce Development's Research and Analysis Section. For more information, visit <https://www.alaska.edu/research/wd/>.

THE OIL AND GAS INDUSTRY AND UA GRADUATES FAST FACTS



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The 54 programs linked to oil and gas

Target occupations	Campus	Major	Degree	Graduates	Employed in AK within a year	1st-year average wage	5th-year average wage
Welders (51-4121, 51-4122)	UAA	Welding	Occupational Endorsement Cert	52	44	\$42,540	-
	UAF	Entry Level Welder	Occupational Endorsement Cert	87	70	\$39,551	\$64,225
	UAS	Welding	Occupational Endorsement Cert	62	49	\$35,868	-
	UAA	Advanced Welding	Occupational Endorsement Cert	27	21	\$42,597	-
	UAA	Nondestructive Testing Tech	Occupational Endorsement Cert	52	47	\$52,773	-
	UAA	Welding Technology	Certificate	30	22	\$47,878	\$50,476
	UAA	Weld & Nondestruct Test Tech	Associate of Applied Science	77	67	\$46,429	\$74,149
Engineering Technicians (17-3023, 17-3029, 17-3027, 17-3026, 17-3022)	UAA	Architectural Technology	Certificate	6	6	\$38,143	-
	UAA	Civil Technology	Certificate	2	2	-	-
	UAA	Mech & Electrical Technology	Certificate	2	2	-	-
	UAA	Structural Technology	Certificate	2	2	-	-
	UAF	Drafting Technology	Certificate	25	18	\$39,062	\$53,203
	UAS	Drafting Technology	Certificate	12	10	\$46,330	-
	UAA	Archit & Engr Technology	Associate of Applied Science	127	93	\$35,183	\$52,293
	UAF	Drafting Technology	Associate of Applied Science	22	17	\$35,252	-
Industrial & Mobile Machinery Mechanics (49-9041, 49-3042)	UAA	Millwright	Occupational Endorsement Cert	3	2	-	-
	UAS	Power Technology	Occupational Endorsement Cert	17	15	\$55,839	-
	UAA	Heavy Duty Trans & Equip	Certificate	28	22	\$47,447	\$55,693
	UAF	Power Generation	Certificate	13	10	-	\$88,139
	UAA	Diesel Power Technology	Associate of Applied Science	3	3	-	-
	UAA	Heavy Duty Trans & Equip	Associate of Applied Science	25	23	\$48,642	\$76,193
	UAS	Power Technology	Associate of Applied Science	39	34	\$50,475	\$64,727
Geological & Petroleum Technicians and Related Occupations (19-4041, 47-5013, 47-5071, 51-8093, 47-5012, 47-5099)	UAA	Petroleum Technology	Certificate	38	34	\$65,803	\$119,160
	UAF	Instrumentation Technology	Certificate	68	61	\$57,255	\$97,735
	UAA	Industrial Proc Instrumentatn	Associate of Applied Science	80	69	\$70,255	\$123,388
	UAA	Industrial Technology	Associate of Applied Science	18	15	\$68,488	\$72,092
	UAA	Process Technology	Associate of Applied Science	546	494	\$77,768	\$140,711
	UAF	Process Technology	Associate of Applied Science	227	192	\$63,347	\$107,795
Geoscientists (19-2042)	UAF	Earth Science	Bachelor of Arts	19	15	\$22,914	\$53,197
	UAA	Geological Science	Bachelor of Science	135	100	\$38,280	\$55,624
	UAF	Geoscience	Bachelor of Science	44	33	\$47,737	-
	UAF	Geology	Master of Science	42	22	\$65,955	\$114,784
	UAF	Geophysics	Master of Science	32	17	\$57,117	-
	UAF	Geology	Doctor of Philosophy	20	6	\$52,356	-
	UAF	Geophysics	Doctor of Philosophy	33	13	\$46,842	-
Architectural & Engineering Managers (11-9041)	UAA	Engineering Management	Master of Science	43	30	\$93,802	\$114,232
	UAF	Engineering Management	Master of Science	7	6	\$87,405	-
	UAA	Project Management	Master of Science	171	110	\$100,793	\$143,201
Engineers, All Other (17-2199)	UAA	Engineering	Bachelor of Science	297	236	\$61,729	\$99,007
	UAA	Electrical Engineering	Bachelor of Science	37	29	\$56,823	-
	UAF	Electrical Engineering	Bachelor of Science	110	81	\$60,047	\$94,977
	UAF	Geological Engineering	Bachelor of Science	59	43	\$56,010	\$86,910
	UAF	Engineering: Interdisciplinary	Master of Science	16	10	\$52,066	\$51,884
	UAF	Electrical Engineering	Master of Science	36	13	\$58,512	-
	UAF	Environmental Engineering	Master of Science	13	10	\$58,516	-
	UAF	Engineering	Doctor of Philosophy	25	13	\$57,065	-
	UAF	Engineering: Interdisciplinary	Doctor of Philosophy	13	6	\$74,708	-
Mechanical Engineers (17-2141)	UAA	Mechanical Engineering	Bachelor of Science	111	72	\$54,329	-
	UAF	Mechanical Engineering	Bachelor of Science	275	196	\$58,676	\$90,425
	UAA	Mechanical Engineering	Master of Science	2	1	-	-
	UAF	Mechanical Engineering	Master of Science	34	15	\$68,028	-
Petroleum Engineers (17-2171)	UAF	Petroleum Engineering	Bachelor of Science	162	103	\$87,096	\$150,692
	UAF	Petroleum Engineering	Master of Science	84	28	\$133,904	\$146,210
Occupational Health & Safety Specs/Techs (29-9011, 29-9012)	UAA	Occupational Safety & Health	Associate of Applied Science	141	117	\$57,383	\$67,412

Note: Graduate numbers are from 2009-18. When wages aren't shown for a program, it's because it had too few graduates.