

# Domestic Maritime Center of Excellence Alaska Consortium



Maritime Showcase  
January 29, 2019

# Alaska Consortium Presenters



## University of Alaska Campuses

Kodiak College – L.A. Holmes

Prince William Sound College – Dan O'Connor

Kachemak Bay Campus – Paula Martin

Ketchikan Campus – Priscilla Schulte & Larry O'Loane

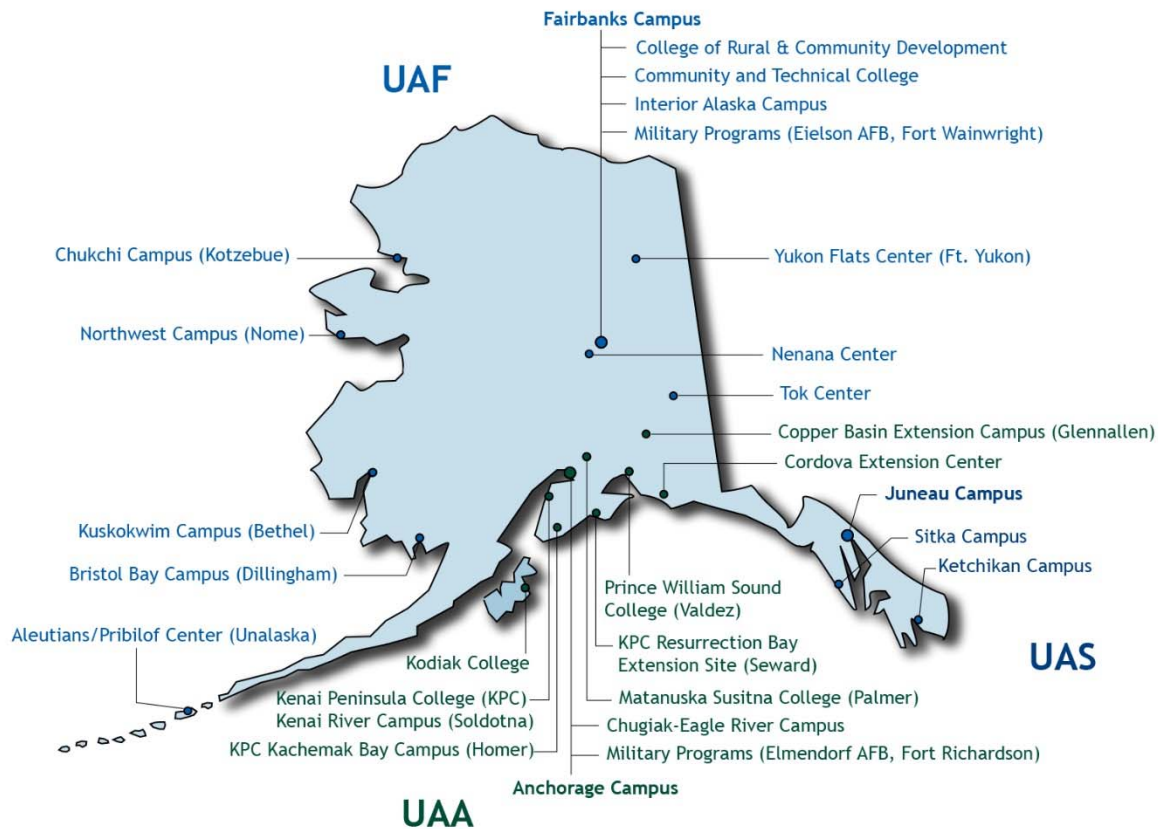


## Alaska Dept. of Labor and Workforce Development

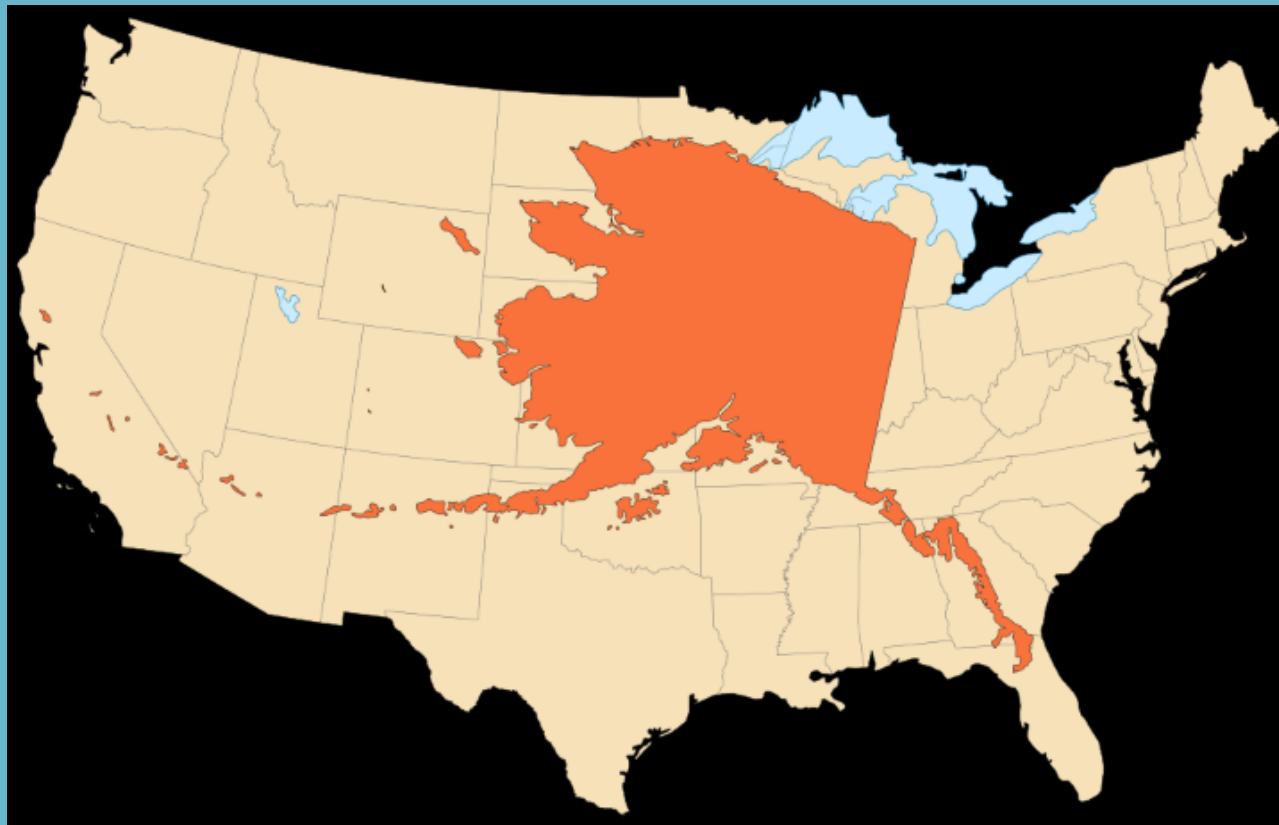
AVTEC (Alaska Vocational Technical Education Center) – Cathy LeCompte



# 16 Campus Locations



Alaska has more coastline than all of the contiguous USA plus Hawaii!



# Importance of Alaska's Maritime Sector

Includes seafood harvesters; seafood processors; fisheries research, enhancement, and management; and marine occupations and support industries.

**68K**

Alaska's largest employer with more than 500 firms and a workforce of over 68,000

**\$6.75B**

The seafood industry provides \$6.75B in annual economic impact to the state

**800**

Over 800 maritime occupation codes

**\$1B**

The maritime industry provides more than \$1B in annual economic impact

# Workforce Development Timeline

2010



## FSMI Launched

- UA invested \$365K to develop plan
- UA invested \$463.4K from TVEP in FSMI programs

2014



## AK Maritime Plan Published

- TVEP investments doubled
- \$2.2M TAACCCT grant for fish tech program
- \$5.8M Title III grant to expand maritime trades

2018-Present



## DMCE Opportunity

- Participating in Community College Consortium
- UA and AVTEC forming Alaska Consortium
- Pursuing DMCE Designation

# FSMI TVEP Investments

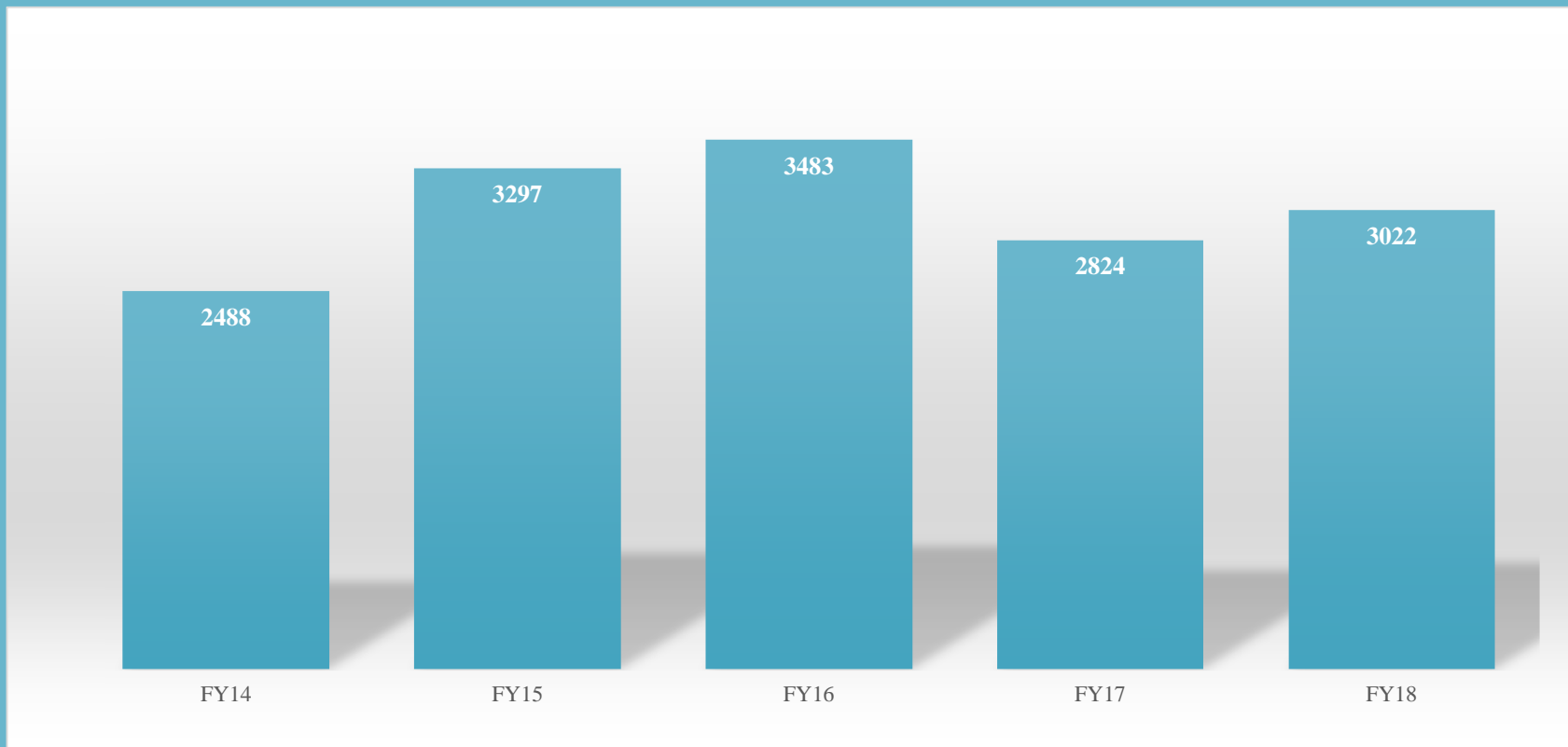
FY14 – FY19

Annual average investment for implementation FY16-FY19 = \$659K



# FSMI Training Outcomes

FY14 – FY18





# Building Awareness



In collaboration with industry partners, Maritime Works, career pages and flyers were created to expand awareness of priority occupations. <https://maritimeworks.org/careers/>

**CAREERS**

- Fisheries Careers**  
Get paid for going outside.  
[Explore](#)
- Seafood Harvester Careers**  
Some people work in offices.  
[Explore](#)
- Seafood Processing Managerial Careers**  
Getting Alaska's seafood around the world. That's your job.  
[Explore](#)
- Seafood Processing Technical Careers**  
Dock to table: You're feeding the world.  
[Explore](#)
- Shipbuilding and Vessel Repair and Maintenance Careers**  
Make sparks fly and ships float.  
[Explore](#)
- Vessel Operations Careers**  
You're going places. Awesome places.  
[Explore](#)

**CAREERS IN ALASKA**  
Engineer - Electrician - Laborer - Technician - Welder - Surveyor

**Make sparks fly and ships float.**

**Shipbuilding, and Vessel Repair and Maintenance**

Salary range: **\$22K to \$193K**

**JOB DESCRIPTION:** From building a ship or fishing boat to keeping ships and boats running, from welding to engineering. For folks just getting started in their careers after high school to experienced professionals with advanced degrees. If you love to design, high-tech systems, work with your hands and see what you built or repaired take to the sea, this is the career field for you.

**ABOUT MARITIME WORKS**  
From fishing to engineering to piloting Alaska's ferries, the maritime sector provides many jobs in Alaska that are other people's employers. We're working to connect Alaskans with the training to get these jobs. Maritime Works is a network of committed representatives of the occupations in Alaska's maritime economy, dedicated to building a strong workforce.

Get good skills, get a good job.  
Learn more at [maritimeworks.org/careers](https://maritimeworks.org/careers)

**Fisheries, Seafood, Maritime Initiative (FSMI)**

**Annual Report**  
University of Alaska  
Supporting the Maritime Workforce  
December 2017

**FSMI Leadership Team**  
Fred Villa, Co-Chair  
Paula Cullenberg, Co-Chair

Alan Fugleberg  
Bonnie Hygard  
Brad Moran  
Cynthia Rogers

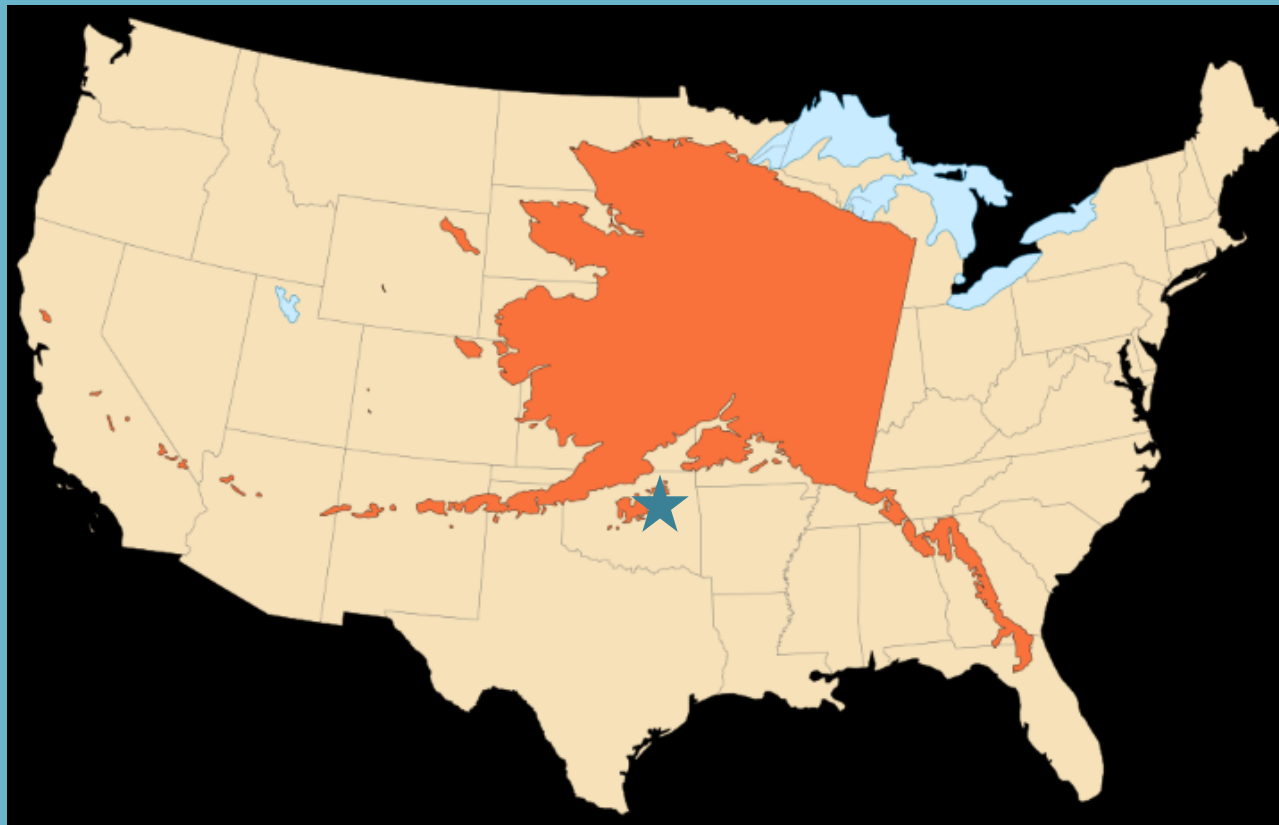
Karen Carey  
Priscilla Schulte  
Ralph Townsend  
Teri Cochran

**UNIVERSITY of ALASKA**  
Keep Tradition, Own Alaska

The FSMI Leadership Team publishes an annual report of activities to highlight programs and student successes.



# Kodiak College



# Kodiak College

UNIVERSITY *of* ALASKA ANCHORAGE



*For career, for fishing, for safety*

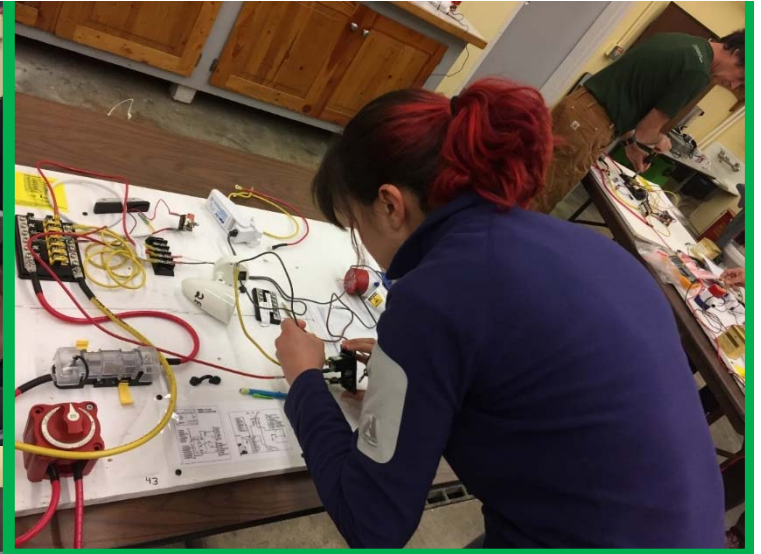
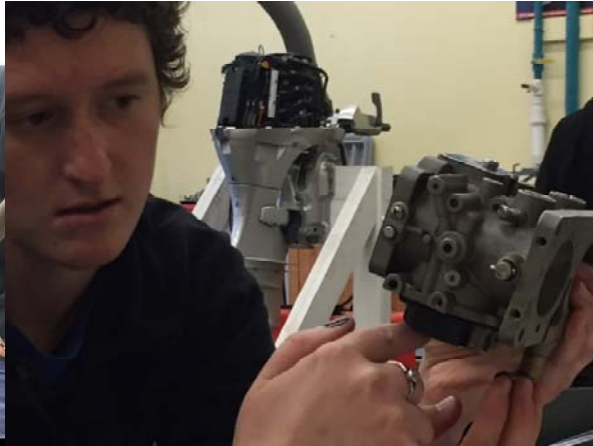
- Non-credit workshops
- Two days in length
- For commercial fishing vessels and crew
- For subsistence families
- For recreational boaters
- For high school students
- For contracted training
- 100% portable

Contact: L.A. Holmes, Maritime Workforce Development Coordinator  
[laholmes@alaska.edu](mailto:laholmes@alaska.edu) phone: 907.486.1239  
117 Benny Benson Drive, Kodiak Alaska, 99615

Where is the need?      How do we get there?

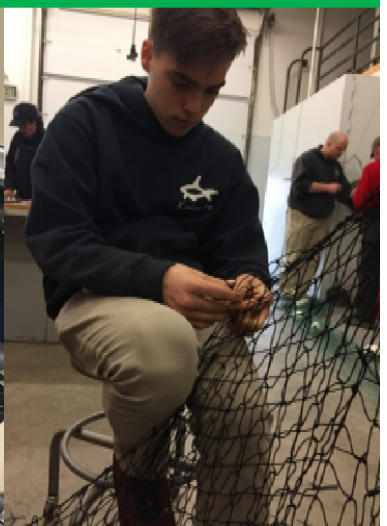


All over the archipelago – Load totes into planes



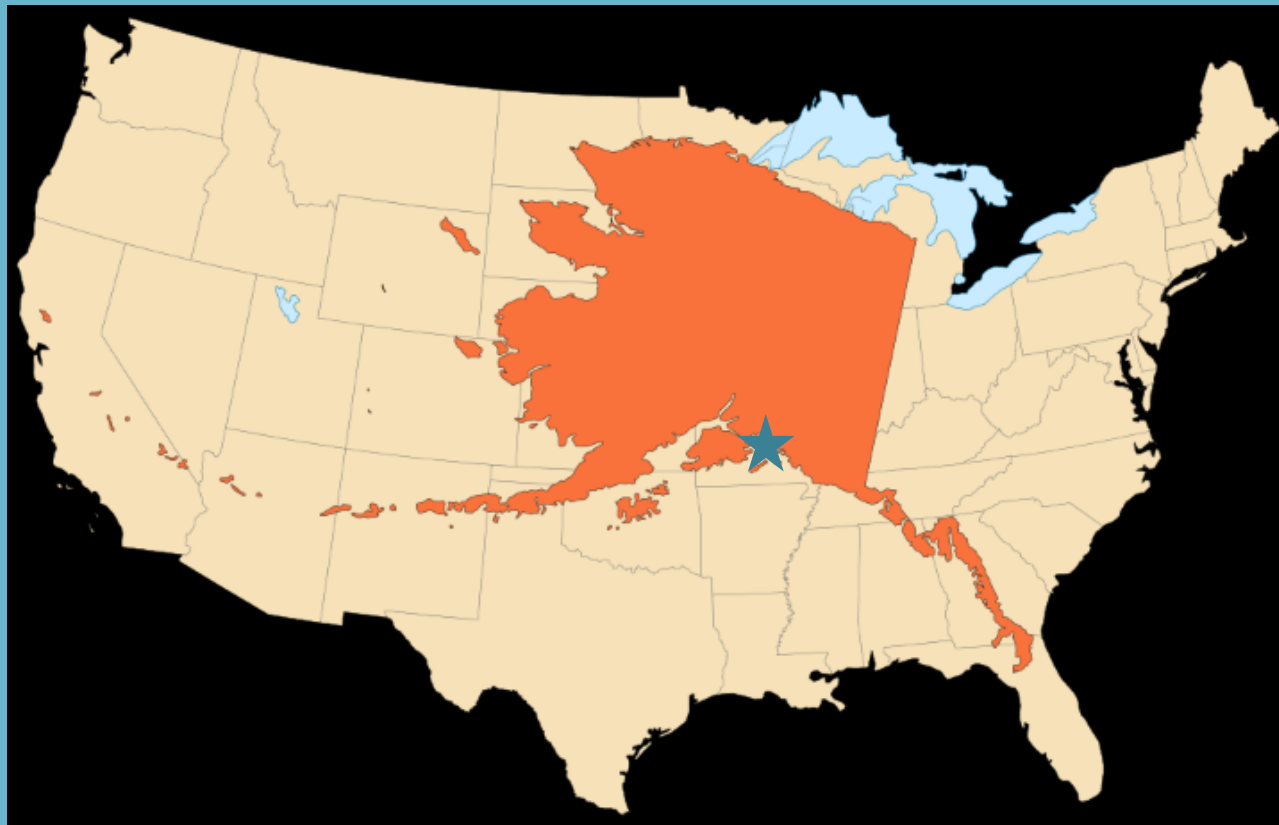
Results:

- Outboard Repair and Maintenance
- DC Electrical for Vessel
- Refrigerated Sea Water
- Gill Net Construction
- Net Mending and Web Repair
- Troubleshooting Gauges
- Vessel Systems Overview
- 60-90 students per FY





# Prince William Sound College



# Prince William Sound College

## Ship Escort /Response Vessel System (SERVS)

Since 1998, PWSC has assisted Alyeska Pipeline Service Company in conducting annual oil spill response training under the SERVS Fishing Vessel Program. The college trains 1500-1800 fishermen annually on 420 vessels in six different ports around Prince William Sound.



### Contact:

Dan O'Connor  
Campus Director  
907.834.1662  
[jdoconnor@alaska.edu](mailto:jdoconnor@alaska.edu)



### Harbor Investment

City of Valdez, where PWSC is located, recently invested \$80M to repair the boat harbor.

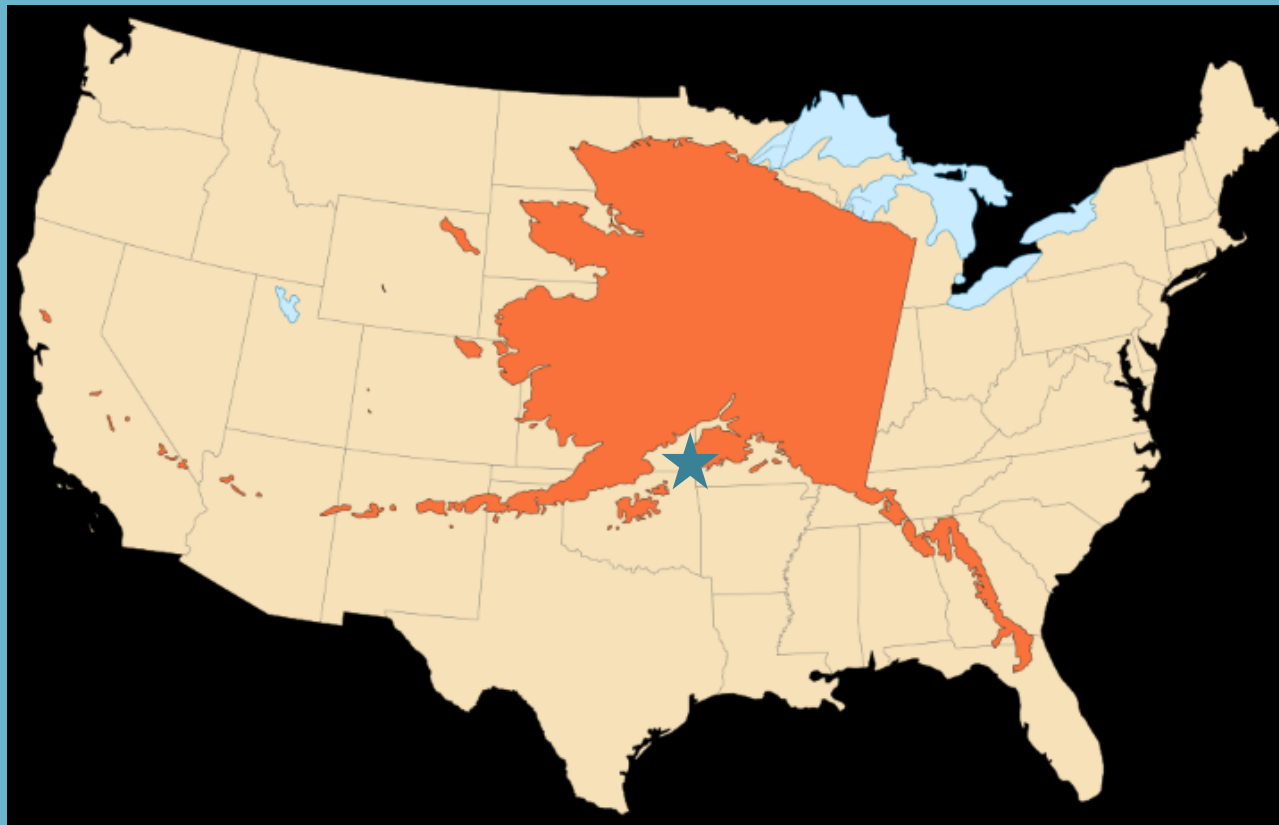


### Millwright Program Expansion

PWSC is collaborating with training partners to deliver their NCCER certified Millwright Program across the state. Previously focused on the mining industry, the training is transferable to the maritime and seafood processing industries.



# Kachemak Bay Campus





# HOMER, ALASKA



## KACHEMAK BAY CAMPUS KENAI PENINSULA COLLEGE

### MARINE TECHNOLOGY TRAINING PROGRAM

907-235-7743 – [kbcinfo@alaska.edu](mailto:kbcinfo@alaska.edu) – [www.kbcnoncredit.asapconnected.com](http://www.kbcnoncredit.asapconnected.com)

One of the University of Alaska's  
maritime training sites.



# USCG-Approved Courses

- **MASTER 100 TON / OUPV COURSE**

- $\geq$ Eighty-hour course to obtain certificate 100 ton or OUPV license, for those with sufficient sea time.
- Successful participants receive certificate in lieu of USCG exam.



- **ABLE SEAMAN COURSE**

- 40 hour USCG course to obtain Able Seaman credential, for those with sufficient sea time.
- Successful participants receive certificate in lieu of USCG exam.



# MARINE VESSEL SYSTEMS

Examines the main systems of a vessel. Uses our locally-built vessel systems trainer.



# MARINE ELECTRONICS

Basics of marine electronics operation.

# DC ELECTRICITY for VESSELS

Troubleshooting and theory of direct current systems on vessels. Includes terminology & definitions, safety codes, fundamental diagrams, and marine wiring. Uses vessel systems trainer.



# MARINE HYDRAULICS

Basic theory of hydraulic systems, components, terminology associated with hydraulics, basic troubleshooting techniques.

# (RSW) REFRIGERATED SEAWATER SYSTEMS

Safe operation, maintenance & troubleshooting techniques of RSW systems. Covers refrigeration theory, installation & winterization.



# FIBERGLASS GEL COAT REPAIR

Marine fiberglass and gel coat repair technology from industry experts.



# OUTBOARD ENGINE MAINTENANCE

Outboard engine maintenance, theory, operation, diagnosis & repair of common problems & winterization techniques.

# ARC & PIPE WELDING

- GMAW and GTAW aluminum welding processes, welding prep, welding fabrication.
- Emphasizes welder certification open root welding of plate.
- Covers welding pipe in all positions.

## NET MENDING and SPLICING

Net mending  
techniques and  
strategies.

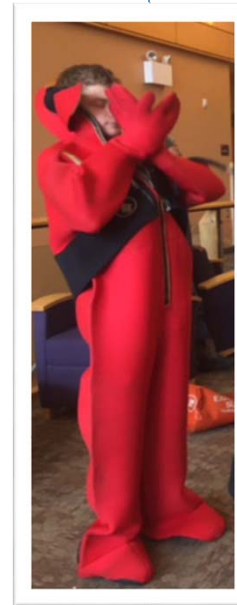
## LINES, RIGGING and GEAR

Basics of modern  
commercial fishing  
gear.



## COASTAL NAVIGATION

Safety,  
navigation,  
anchoring, rules  
of the road,  
charting and  
basic  
seamanship.



## DECKHAND SKILLS

Practical skills for  
becoming a  
deckhand on any  
vessel. Safety,  
survival skills, line  
handling, knots,  
gear, basic  
navigation, crew  
roles & wheelhouse  
expectations.



# Ketchikan Campus



# UNIVERSITY OF ALASKA SOUTHEAST MARITIME TRAINING CENTER



KETCHIKAN, ALASKA

907-228-4568

[UAS.MARITIME@ALASKA.EDU](mailto:UAS.MARITIME@ALASKA.EDU)

[KETCH.ALASKA.EDU](http://KETCH.ALASKA.EDU)

## \$6 MILLION INFRASTRUCTURE RENOVATION



## ONLY MARITIME TRAINING CENTER IN SE ALASKA

- All U.S. Coast Guard Approved Courses
- Only Maritime Degree program in State of Alaska
- Deck, Engine & Fabrication/Repair



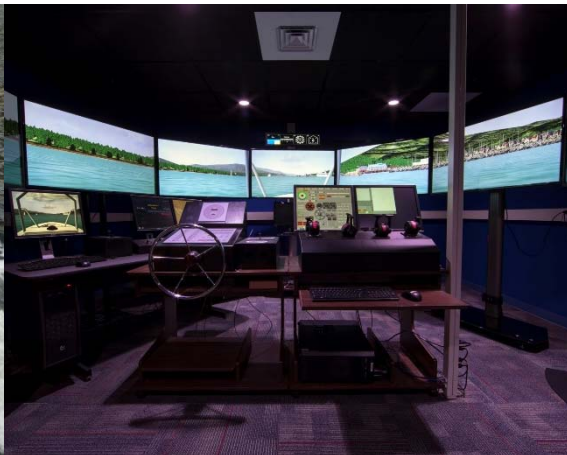
# Marine Transportation – Deck Side Training



**Full Bridge Simulator**  
**Radar Lab**  
**Lifeboat & Davit**  
**Fast Rescue Boats**  
**Lift Rafts**  
**Fire Training Field**

**22+ U.S. Coast Guard-  
Approved Courses**

- **Basic Training, PSC, Fast Rescue Boat, Radar, Basic/Advanced Fire Fighting, 100-Ton, 200-Ton, Crowd, Crisis, RFPNW, ECDIS, Towing Apprentice**



# Marine Engine Program / QMED Training

Diesel Lab

Hydraulic Trainers

Marine Electrical Trainers

Refrigeration Trainers



**ALL U.S. Coast Guard-Approved Courses**

- Diesel Engines, Hydraulics, Refrigeration, Marine Electronics, Naval Architecture
- Oiler to Jr. Engineer (Jr. Engineer Test Prep course)

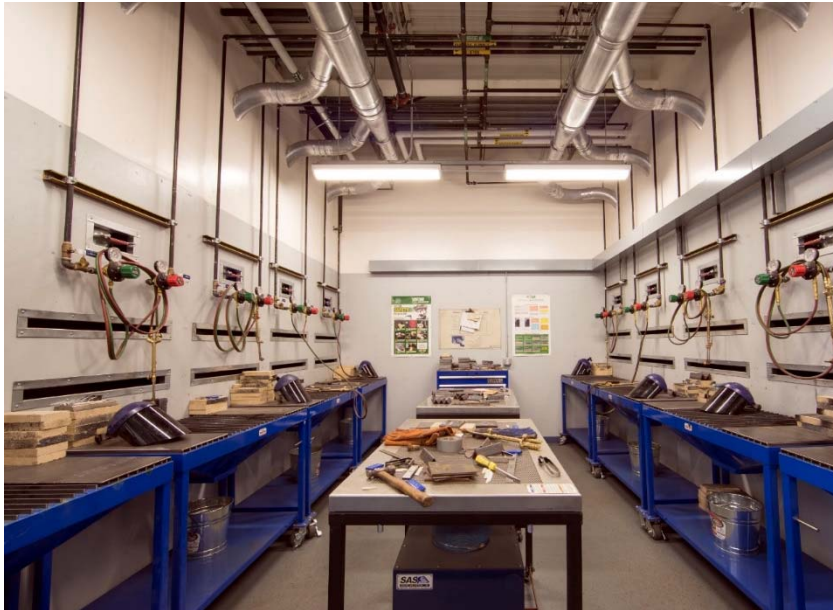
# Marine Fabrication & Repair Training

**Welding & Fabrication Lab**

**Gas Welding & Cutting Lab**

**New Equipment including**

**CNC Plasma, Bead Blaster, Rollers, Benders, etc.**



**Occupational Endorsement in  
Welding**

**Basic, Intermediate, Advanced**

**All Welding Processes**





UNIVERSITY OF ALASKA SOUTHEAST

# Maritime Training Center



UNIVERSITY  
of ALASKA  
SOUTHEAST

- **Associate of Applied Science in Marine Transportation**
  - Deck Emphasis
  - Engine Room Emphasis
- **Ports, Harbors & Marinas Online Program**
- **U.S. Coast Guard 5-year Contract**
  - Shipboard Fire Fighting Alaska Buoy Tenders
- **Vigor AK Shipyard**
  - Welding Training Contract
- **Alaska Marine Highway System**
  - QMED Internship Program
  - Deck side training – 200-300 employees a year

907-228-4568

[UAS.MARITIME@ALASKA.EDU](mailto:UAS.MARITIME@ALASKA.EDU)

[KETCH.ALASKA.EDU](http://KETCH.ALASKA.EDU)



# Alaska Vocational Technical Center





**50** YEARS  
**AVTEC**

Celebrating 50 years of Training Alaskans

# ALASKA MARITIME TRAINING CENTER

Alaska Vocational Technical Center  
MARITIME PROGRAMS SHOWCASE  
January 29, 2019

# AVTEC at a glance...

- The Alaska Vocational Training Center (AVTEC) is a post secondary career and technical education school operated by the Alaska Department of Labor and Workforce Development under the supervision of the State of Alaska.
- Nationally accredited by the Council on Occupational Education.



# AVTEC Programs of Study

- Alaska Maritime Training Center
- Culinary Arts
- Construction Technology
- Diesel / Heavy Equipment Technology
- Information Technology - Networking
- Business & Office Technology
- Industrial Electricity
- Plumbing & Heating
- Refrigeration
- Welding / Structural & Pipe





# Alaska Maritime Training Center

- The mission of the Alaska Maritime Training Center is to provide Alaskans the skills and technical knowledge to thrive in Alaska's challenging and evolving maritime working environment and to build a domestic maritime workforce focused on Alaska's industry needs and challenging operational environment including the Arctic Region.
- Thirty nine USCG and IMO courses approved
- License preparation for advanced USCG licenses
- Over 1,000 mariners served annually



# Maritime Career Pathway

## YOUTH OUTREACH

### Young Mariner Program

Introduction to Nautical  
Young USCG Approved

## WORKFORCE DEVELOPMENT

### Licenses & Certifications

Able Seafarer  
Deck & Engine  
Able Bodied Seaman,  
Master  
Qualified Member of the  
Department

## ADVANCED TRAINING

### Advanced Licenses & Certifications / Customized Training

Maritime Officer Training  
Deck and Engineering  
Departments  
Company and Vessel  
Training

# Youth Outreach

## AVTEC CTE SECONDARY TRAINING ACADEMY

### YOUNG MARINER TRAINING PROGRAM

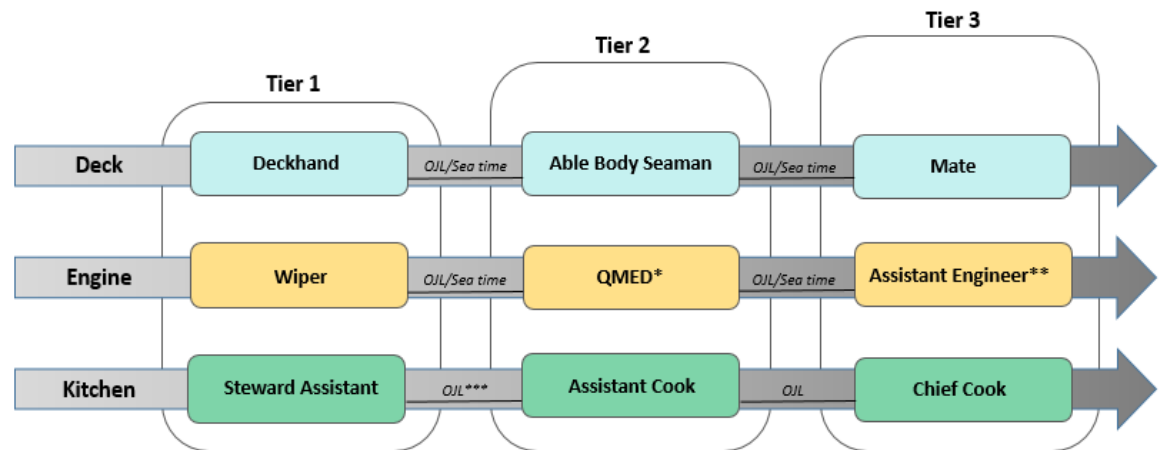
- Introduction to Nautical Skills
  - Dual credit high school course.
  - Offered online to students in districts across the state enabling make significant progress toward earning a credential.
  - Pre-apprenticeship training in collaboration with industry in the Apprenticeship Program (AMAP).





# Alaska's Maritime Apprenticeship Program

## Voyage Paths



\* QMED: Qualified Member of Engine Department

\*\* Engine: Tier 3, Apprentice may choose either Designated Duty Engineer (Limited), or Third Engineer (Unlimited)

\*\*\* OJL: On-the-Job Learning

# Workforce Development

## AVTEC CTE SECONDARY TRAINING ACADEMY

### SECONDARY CTE TEACHER TRAINING PROGRAM

- CTE Practicum in Maritime Education
  - Follows a “Train the Trainer” model
  - Teachers earn the credentials necessary to deliver maritime secondary students.
  - Developing an Alaska Maritime Transportation Career and Education Program of Study (CTEP)



# Workforce Development



## SOPHISTICATED TOOLS

- Tug & Ship interactions
- All weather, all seasons, SEA ICE & ICE BREAKER

## FULL MISSION BRIDGE SIMULATORS

- Three interactive FULL MISSION BRIDGES
- Meets STCW, IMO, Class A – Det Norske Veritas AS (DNV)
- Azimuth Controls



# Workforce Development

## SATELLITE IMAGERY AND NOAA CHART DATA DESIGNED SIMULATION AREA DATABASES

- 71 Developed ports and navigable waterways
  - Western Alaska (10)
  - Southcentral Alaska (18)
  - Southeast Alaska (23)
  - Outside Alaska (22)
    - WA, CA, NY, NJ, VA, Singapore
- Custom built, easily modified
  - Docks, building, buoys, current & wind



# Workforce Development

## SIMULATION OWNERSHIP MODELS

### 52 Ownship Models

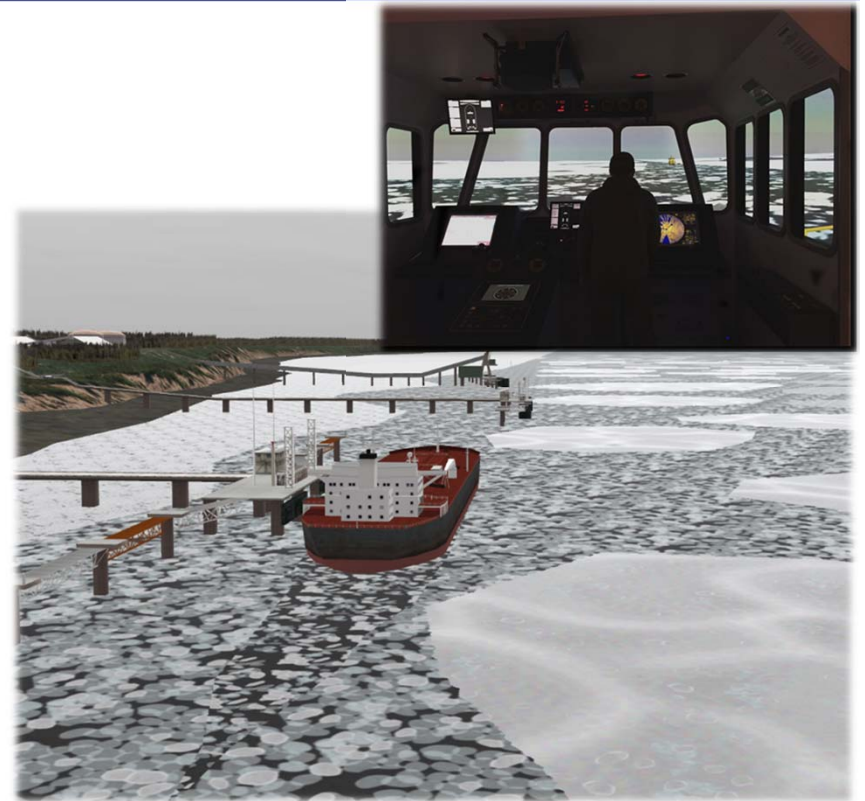
- Liquid cargo (10)
- Dry Cargo (9)
- Passenger (12)
- Tug & Barge (13)
- Offshore Supply (3)
- Other (5)
- ICE BREAKER or ICE CAPABLE (3)





# Customized Training Research & Development

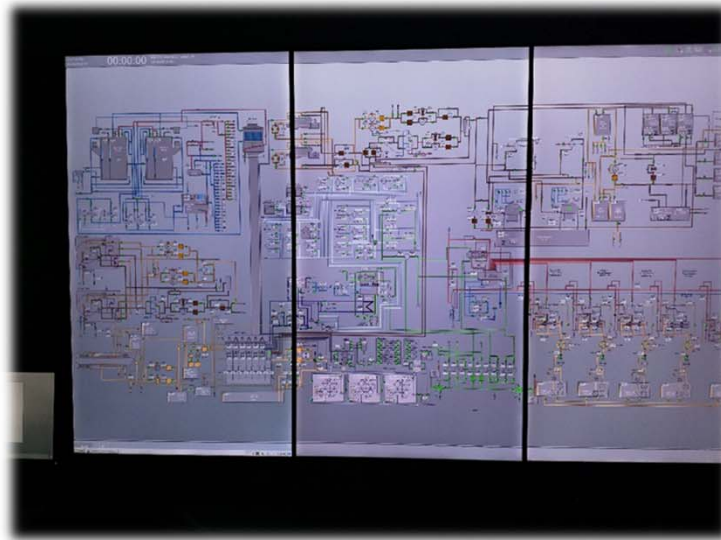
- Advance Ship Handling
- Arctic Operations
- Leadership and Advanced Officer Training
- Port and Harbor Research & Development



# Workforce Development

## ENGINE ROOM AND LIQUID CARGO SIMULATOR

- Training for ships mechanical systems
- Tankerman training for handling dangerous liquid cargo



# Marine Fire & Crane Safety Training



# QUESTIONS?

**FOR MORE INFORMATION CONTACT:**  
Captain Terry Federer, AMTC Department Chair  
907-224-6195 [terry.federer@avtec.edu](mailto:terry.federer@avtec.edu)

Cathy LeCompte, AVTEC Director  
907-224-6150 [cathy.lecompte@avtec.edu](mailto:cathy.lecompte@avtec.edu)

**University of Alaska Workforce Development**

**Fred Villa, Associate Vice President**  
**fvilla@alaska.edu – 907.450.8005**

**Teri Cothren, Project Manager**  
**tgcothren@alaska.edu – 907.330.9136**

**<http://www.alaska.edu/fsmi/>**  
**<https://uaworkforceprograms.com/>**

**Thank you**

**Mission:**

*Enhancing the sustainable use and conservation of Alaska's marine and freshwater resources through research, outreach, and education.*

ASG provides many Marine Advisory Programs across the state, including:

- Provides the biennial Alaska Young Fishermen's Summit to train new commercial fishing business owners and the Alaska Seafood Process Institute to train seafood production managers, quality assurance leaders, and small processors.
- Delivers U.S. Coast Guard approved Alaska Marine Safety Education Association (AMSEA) Drill Conductor training that meets requirements of commercial seafood harvesters.



# UAF Alaska



# Sea Grant

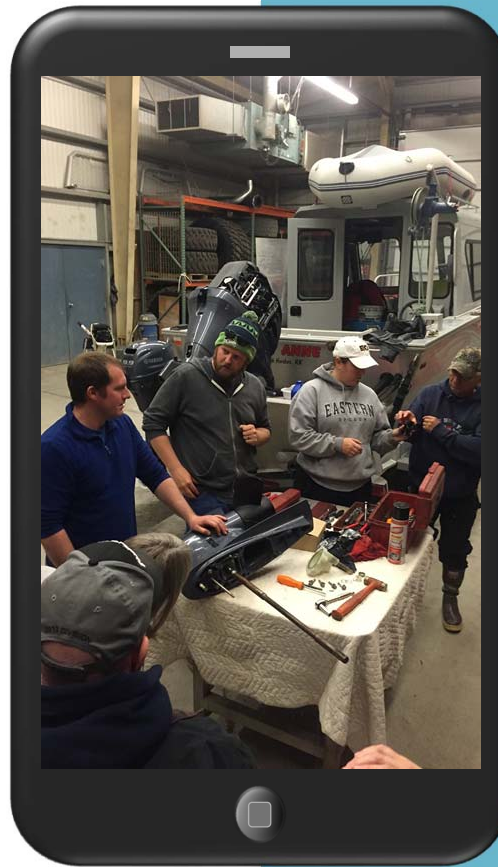


# UAF

## Bristol Bay Campus



Delivers, in partnership with UAF Alaska Sea Grant Marine Advisory Program, the **Maritime Technical Program** to train commercial, recreational, and subsistence boat owners and operators in outboard and diesel engine maintenance, diagnosis, and repair.



### Mission

Serving the Bristol Bay Region and the Aleutian and Pribilof Islands



### Program Outcomes

Trained 23 students in 2018.



### What's Next

Expanding program with courses in hydraulics, marine fabrication, and refrigerated sea water.

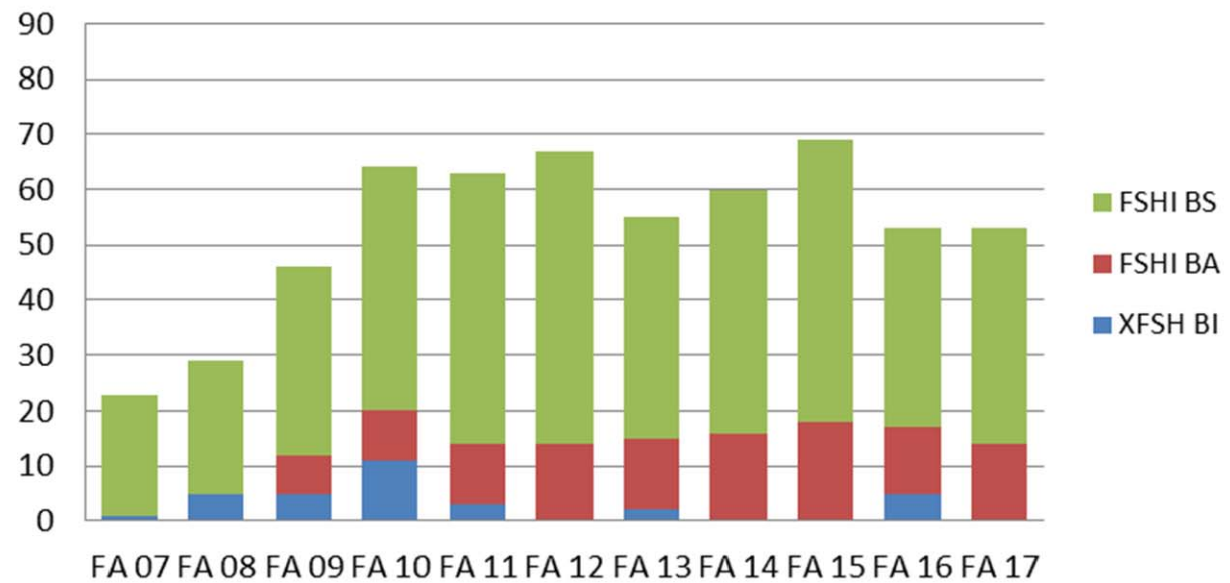


## Statistics

- Offers two undergraduate programs with two minors, and six graduate programs that include three Ph.D.'s.
  - 160 Employees in 12 locations
- 52 faculty across the state
- 12 Marine Advisory Program Agents in 8 coastal communities
- 154 declared majors and 21 degrees awarded in FY18

## UAF College of Fisheries & Ocean Sciences

### Fisheries Undergraduate Enrollment





# UAS Fisheries



Provides three Bachelor's of Science Programs: Biology, Marine Biology, and Fisheries.

Delivers Fisheries jointly with UAF CFOS to increase:

- Delivery capacity across the state
- The number of graduates
- The diversity of research and internship experiences



Alaska is currently experiencing a shortage of fisheries technicians and fisheries biologists – a trend predicted to continue for at least the next 10 years. UAS Sitka Campus, has partnered with industry and regulatory agencies to develop programs that can meet this growing need.

- Offer OEC, Certificate, and AAS in Fisheries Technology
- Courses offered online, in the classroom, and via iPad to be taken “off the grid” – ultimate flexibility for students.

# UAS Fisheries Technology