

Institution Overviews for each of the 8 member maritime training institutions that comprise the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime)

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MARITIME ADMINISTRATION
U.S. Department of Transportation
Center of Excellence (CoE) for Domestic Workforce Training and Education

**Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
Skagit Valley College – Mt. Vernon, WA**

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating Skagit Valley College, as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). Skagit Valley College serves as the administrative lead entity and primary marine systems hub for PAC Maritime, delivering comprehensive technical education, business logistics, and marine craft maintenance across the Pacific Northwest maritime corridor.

Operational Footprint & Assets

- **Marine Propulsion Complex:** Specialized labs for ABYC-aligned diagnostic testing, overhaul, and repowering of inboard diesel, gasoline, outboard, and sterndrive engines.
- **Composites & Vacuum Infusion Suite:** Closed-mold facility delivering carbon fiber techniques and ACMA-certified Vacuum Infusion Process (VIP) training.
- **Marine Electronics Benches:** Dedicated AC/DC test boards, digital switching stations, and NMEA 2000 diagnostic benches for vessel networks.
- **Yamaha & MTAP Partnerships:** Designated Yamaha Marine education partner and active Marine Trades Accreditation Program (MTAP) member.
- **Certified Welding Facility:** WABO testing site offering AWS entry-level welder training across SMAW, GMAW, FCAW, and GTAW processes.

Workforce & Regional Impact

- **Student Throughput & Retention:** Enrolled 57 Marine Maintenance and 58 Welding students, sustaining an 88–100% first-to-second quarter retention rate.
- **Paid Co-Op Training:** Mandatory paid co-op pairing student technicians with master technicians at regional shipyards and marine repair firms.
- **Employer Pipelines:** Feeds certified technicians directly to regional shipbuilders and manufacturers, including Dakota Creek Industries and Nichols Bros. Boat Builders.
- **K-12 & Dual Credit Pathways:** Partners with Northwest Career and Technical Academy (NCTA) on dual-credit marine pathways and underwater ROV projects.

Strategic Outlook

Skagit Valley College anchors the Career Connect Washington Maritime Sector Intermediary, executing statewide workforce mobilization strategies, emergency supply chain training, and cross-regional logistics alignment across rural coastal communities. Its co-location in the Puget Sound maritime cluster enables rapid operational scaling to meet critical defense supply chain and commercial vessel repair emergencies.

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**Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
North Seattle College – Seattle, WA**

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating North Seattle College, as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). North Seattle College functions as the consortium's advanced electronics and industrial automation node, supplying high-level engineering technicians for commercial, defense, and maritime electronics sectors.

Operational Footprint & Assets

- **Mechatronics & Automation Lab:** Features PLC workstations, fluid power hydraulic/pneumatic test benches, and industrial robotics cells.
- **Fiber Optics & Avionics Diagnostics:** Equipped with OTDR reflection meters, fiber fusion splicers, and commercial avionics test rigs for high-speed vessel and aerospace data networks.
- **Microelectronics & Circuit Suite:** Houses precision electronic soldering stations, spectrum analyzers, oscilloscopes, and AC/DC circuit simulation software.
- **Network & IT Testbeds:** Features Cisco IT Essentials hardware labs, Linux/Windows networking testbeds, and A+ hardware/software troubleshooting platforms.
- **Industry Certifications:** Prepares students for Fiber Optic Association (FOA) certification, FCC commercial operator licenses, CompTIA A+, and ASQ Certified Calibration Technician standards.

Workforce & Regional Impact

- **Throughput & Employment Rate:** Generates 65.1 annual Engineering Technology FTEs with an 82.6% direct industry employment placement rate.
- **Baccalaureate Pipeline:** Achieves an 85% career placement rate across its BAS in International Business and BS transfer pathways to Central Washington University.
- **Broad-Based STEM Recruitment:** Participates in the NSF-funded LSAMP Puget Sound Alliance to expand technical recruitment and retention across advanced engineering and mechatronics tracks.
- **High-Wage Industry Outcomes:** Direct career entry for electrical/instrument mechanics, avionics technicians, robotics specialists, and industrial repairers.

Strategic Outlook

North Seattle College provides rapid emergency technology support through its mechatronics and fiber optics labs, quickly re-skilling technicians for defense electronics, vessel automation, and SCADA security. Co-located in the Seattle technology belt, the college enables immediate deployment of automation specialists to regional shipyards and marine technology firms.

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Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
Seattle Central College – Seattle, WA

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating Seattle Central College, as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). Seattle Central College operates the Seattle Maritime Academy on the Washington Ship Channel and a dedicated Wood/Composites Boat Building facility, anchoring regional vessel construction, deck navigation, and marine engine overhaul.

Operational Footprint & Assets

- **USCG-Approved Engine & Bridge Simulation Complex:** Features full-mission bridge simulators, engine room simulation suites, davit piers, and live vessel handling platforms.
- **26,000 Sq. Ft. Working Waterfront Facility:** Fully accredited USCG facility located on the Washington Ship Channel, featuring specialized classrooms, labs, and training vessels.
- **Marine Diesel & Steam Engine Shop:** Houses heavy marine diesel overhaul bays, auxiliary steam boilers, marine hydraulics rigs, and refrigeration test loops.
- **Shipyard Wood & Composites Shop:** Operates full-scale joinery machinery, resin infusion suites, plug/mold fabrication bays, and spray-gun booths for commercial boat building.
- **Live Underway Practicum Assets:** Conducts weekly 12-hour underway practicums aboard dedicated training vessels and requires a mandatory 30-to-90-day commercial at-sea internship.

Workforce & Regional Impact

- **Merchant Mariner Throughput:** Sustains consistent enrollment across Marine Deck, Marine Engineering Technology, and Carpentry/Boatbuilding.
- **Direct USCG Licensing Output:** Issues official USCG credentials for Able Seaman Special, Qualified Member of the Engine Department (QMED-Oiler/Fireman), Lifeboatman/PSC, and RFPEW/RFPNW watchstanding endorsements.
- **Community & Industry Engagement:** Conducts monthly public waterfront tours and maintains direct hiring partnerships with Washington State Ferries, Western Towboat, NOAA, and Vane Brothers.
- **Continuing Mariner Upgrading:** Serves as a regional re-certification and upgrade center for credentialed mariners taking advanced simulation, ECDIS, ARPA, and radar refresher courses.

Strategic Outlook

Anchoring Washington's working waterfront, Seattle Central College provides rapid mobilization for commercial vessel crew surges, emergency ferry repairs, and Puget Sound disaster response logistics. Its USCG-approved simulation complex and live training fleet support continuous mariner credentialing under emergency conditions.

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Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
South Seattle College – Seattle, WA

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating South Seattle College, as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). South Seattle College anchors heavy industrial shipyard training through its Harbor Island Training Center, a direct classroom-in-a-shipyard partnership with Vigor Industrial, combining accredited college instruction with hands-on trade apprenticeships.

Operational Footprint & Assets

- **Harbor Island Classroom-in-a-Shipyard:** Operates an active 100% industrial shipyard facility on Puget Sound, equipping students with real-world marine FCAW/SMAW welding booths.
- **Advanced Structural Fabrication Lab:** Features heavy plate shear cutters, CNC plasma arc cutting tables, power rollers, and carbon arc gouging stations.
- **Mechanical Testing & Metallurgy Suite:** Equipped with destructive bend testing rigs, tensile strength machines, and darkroom non-destructive inspection equipment.
- **Industrial Forklift & Rigging Complex:** Conducts certified lift truck operator safety training and heavy material handling instruction for shipyard operations.
- **All-Weather Outdoor Welding Bays:** Trains welders to execute structural joints out-of-doors under real-world maritime weather conditions and in confined/restricted spaces.

Workforce & Regional Impact

- **High Industrial Output:** Graduated 162 total welding completers out of 202 enrollments, including 32 specialized Maritime Shipyard Welding certificate recipients.
- **Direct Shipyard Career Trajectory:** Provides direct, immediate employment into Vigor Industrial, Puget Sound Naval Shipyard, and regional commercial boatbuilders.
- **Pre-Apprenticeship & Industry Alignment:** Coordinates with regional metal trades joint apprenticeship training committees (JATC), Boilermakers Local 104, and skill-building re-entry initiatives.
- **WABO Certification Output:** Prepares fabricators for official Washington Association of Building Officials (WABO) plate and pipe welder certification tests.

Strategic Outlook

South Seattle College provides a vital national defense asset positioned directly within an active commercial shipyard, enabling rapid emergency fabrication, battle-damage repair training, and surge welder credentialing. Its blended vocational model guarantees rapid workforce scaling for critical military and commercial fleet maintenance during national security emergencies.

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Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
Clark College – Vancouver, WA

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating Clark College, as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). Clark College serves as Southwest Washington's regional industrial trade engine, offering broad-based degrees and certificates in heavy welding fabrication, metallurgy, and auxiliary diesel engine technology along the Columbia River logistics corridor.

Operational Footprint & Assets

- **Heavy Fabrication & Welding Complex:** Features comprehensive welding practice booths equipped for SMAW, GMAW, FCAW, GTAW, and Submerged Arc Welding (SAW) processes.
- **Physical Metallurgy & Material Testing Lab:** Operates Rockwell hardness testers, metallographic polishers, microscopes, and heat-treating furnaces for metal alloy analysis.
- **Commercial Diesel Engine & Hydraulics Facility:** Houses heavy diesel diagnostic bays, Caterpillar/Cummins/Detroit engine overhaul stands, and industrial fluid power test benches.
- **Precision Blueprint & Layout Studio:** Teaches shop drawing interpretation, AWS A2.4 welding symbol application, multi-view projections, and bill of materials development.
- **Emergency Response & First Aid Suite:** Integrates mandatory Adult CPR, AED, First Aid, and shop emergency response certification across all trade tracks.

Workforce & Regional Impact

- **High Throughput Volume:** Maintains 50 Annual FTEs in Welding Technology, serving an unduplicated annual headcount of up to 114 students.
- **Columbia River Industry Trajectories:** Supplies certified welders and heavy diesel mechanics directly to regional employers like Greenbrier Marine, Vigor Vancouver, and Gunderson Marine.
- **MESA STEM Access Integration:** Operates a dedicated Mathematics, Engineering, Science Achievement (MESA) program to transition non-traditional students and career-changers into advanced trade and engineering degrees.
- **Industrial Employer Customized Training:** Provides evening diesel and engine control courses tailored to regional transportation and heavy equipment companies.

Strategic Outlook

Strategically located on the Columbia River marine transportation system, Clark College provides emergency capacity expansion for barge repair, heavy equipment restoration, and diesel generator mobilization during regional supply chain disruptions. Its dual focus on metallurgy and heavy diesel power ensures rapid support for inland waterway fleets and defense logistics.

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Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
Peninsula College – Port Angeles, WA

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating Peninsula College, as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). Peninsula College serves as the Olympic Peninsula's premier rural maritime node, integrating AWS structural welding, aluminum boat fabrication, marine electronics, and coastal spill response disciplines.

Operational Footprint & Assets

- **Coastal Welding & Metal Fabrication Bay:** Equipped for AWS D1.1 steel and AWS D1.2 aluminum structural welding, plasma cutting, carbon arc gouging, and sheet metal forming.
- **Marine Technology & Outboard Repair Lab:** Features outboard engine service stands, marine electrical wiring simulators, and shipboard plumbing/pump diagnostic rigs.
- **Marine Spill Response & Safety Facility:** Operates specialized equipment for oil spill clean-up simulation, hazmat decontamination, and coastal environmental preservation aligned with IMO standards.
- **Marine Finishing & Anti-Corrosion Suite:** Teaches hull preparation, priming, marine coatings, interior aluminum finishing, and sacrificial anode corrosion control.
- **State Boater Safety & ABYC Standards Suite:** Delivers ABYC-aligned safety instruction and proctors official Washington State Boater Education Card exams.

Workforce & Regional Impact

- **Accelerated Program Capacity:** Increased welding FTEs from 79 to 95 annually, serving 71 unduplicated students with a 100% retention rate.
- **Rural Coastal Career Pathways:** Directly feeds aluminum boatbuilders and marine service yards across the Olympic Peninsula, including Brix Marine and Armstrong Marine.
- **Community & School District Outreach:** Collaborates with the Cape Flattery School District and local rural community partners to demystify college access and deliver localized trade skills.
- **Displaced Worker Support Network:** Maintains dedicated workforce navigators assisting displaced workers, career-changers, and non-traditional students with housing and basic needs co-located on campus.

Strategic Outlook

Peninsula College provides critical coastal resilience and emergency response capabilities along the Strait of Juan de Fuca, serving as an immediate mobilization site for marine oil spill containment, aluminum patrol boat repair, and coastal defense logistics. Its location secures vital maritime infrastructure along northern Pacific border corridors.

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Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
Portland Community College – Portland, OR

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating Portland Community College (PCC), as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). Oregon's largest postsecondary institution, PCC operates the Maritime Welding Training Center co-located inside Vigor Shipyard, delivering multi-process arc welding certified to AWS structural steel and NAVSEA defense codes.

Operational Footprint & Assets

- **Swan Island Maritime Welding Training Center:** A 4,000-square-foot specialized industrial facility co-located at Vigor Shipyard, featuring 16 stackable career pathways.
- **Multi-Campus Trade Complex:** Spans Swan Island, Rock Creek, and the Oregon Manufacturing Innovation Center (OMIC), featuring automated wire welding, pipe welding, and flux-cored booths.
- **Non-Destructive Testing & Inspection Suite:** Equipped for visual inspection, ultrasonic testing, magnetic particle testing, and NAVSEA code compliance evaluations.
- **Maritime Pipefitting & Spool Fabrication Lab:** Features specialized equipment for socket/butt welds, pipe spooling, straight-run offsets, and submerged arc welding.
- **Flexible Open-Entry/Self-Paced Format:** Delivers open-entry/open-exit scheduling allowing working adults and incumbent mariners to complete stackable certificates.

Workforce & Regional Impact

- **High-Volume Throughput Capacity:** Serves over 433 unduplicated students annually across all campuses, generating 103 to 138 total AAS degrees and certificates per year.
- **Broadening Student Recruitment:** Partnered with Oregon Tradeswomen to boost enrollment at the Swan Island campus, bringing in 29% non-traditional trade students and drawing 24% of students from local urban areas.
- **Re-Entry Employer Alignment:** Partners with Vigor to provide educational pathways and hands-on trade certification for individuals transitioning back into the workforce.
- **High School Dual-Credit Bridges:** Maintains dual-credit welding articulation agreements across five regional high schools, creating direct secondary-to-shipyard career pipelines.

Strategic Outlook

Co-located inside Oregon's primary commercial shipyard, PCC provides essential training for critical maritime needs, supporting rapid workforce deployment for military vessel conversions, commercial ship overhauls, and regional bridge repairs, while offering structured trade pathways for individuals re-entering the workforce.

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Pacific Northwest Maritime Industries Education Alliance (PAC Maritime) –
Crawford Nautical Training – Seattle, WA

The Secretary of Transportation redesignates the Pacific Northwest Maritime Industries Education Alliance (PAC Maritime), incorporating Crawford Nautical Training, as a Center of Excellence for Domestic Maritime Workforce Training and Education (CoE). Operating under Eat on the Wild Side, Crawford Nautical Training is a historic maritime vocational institution established in 1923, providing USCG-approved deck and engine mariner licensing and sponsoring a federally registered apprenticeship program.

Operational Footprint & Assets

- **USCG Exam Preparation & Simulation Center:** Equipped with radar simulation workstations, ARPA/ECDIS computer labs, and celestial navigation plotting tables.
- **Commercial Fishing & Longline Gear Suite:** Features long line coiling gear, black cod pot mending stations, hydraulic hauling rigs, and fish processing deck labs.
- **Vessel-Based Apprenticeship Field:** Operates approved vessel-based training environments delivering competency-based, on-the-job instruction across Pacific Northwest and Alaskan waters.
- **Comprehensive USCG Licensing Suite:** Delivers over 20 USCG-approved courses including Master 200 Ton, Master 100 Ton/OUPV, Designated Duty Engineer (1000–4000 HP), Assistant Engineer, and Tankerman.
- **STCW & Bridge Management Suites:** Proctors USCG-audited courses in Bridge Resource Management, Leadership and Managerial Skills, Terrestrial Navigation, and Rules of the Road.

Workforce & Regional Impact

- **Federal Registered Apprenticeship Sponsor:** Sponsors "The Inbreaker Program", a USDOL Registered Apprenticeship Program for commercial maritime workers.
- **Union & Industry Advisory Guidance:** Founded and guided in direct partnership with the Deep Sea Fishermen's Union and Fishing Vessel Owners' Association.
- **Multi-County Regional Reach:** Operates registered apprenticeship work processes across 15 Washington coastal counties including King, Whatcom, Skagit, Pierce, and Clallam.
- **Veterans' Education Approval:** Approved by the State Approving Agency for GI Bill and veterans' educational assistance under Public Law 116-134.

Strategic Outlook

Maintains a vital national security surge pipeline of USCG-licensed deck officers, engineers, and registered mariner apprentices for North Pacific fishing fleets, commercial towing, and emergency ocean transport. Its century-long instructional legacy ensures continuous mariner qualification during national merchant marine shortages.