

**Maritime, Port, Transportation Security Certificate Program Proposal**

Richard Axtell

**Table of Contents**

[Overview 2](#_Toc419190436)

[Purpose 2](#_Toc419190437)

[Statement of Need 2](#_Toc419190438)

[Occupational Outlook 4](#_Toc419190439)

[Competency Alignment 5](#_Toc419190440)

[Curriculum 7](#_Toc419190441)

[Appendix A 10](#_Toc419190442)

# **Overview**

It is proposed that a Certificate Program in Maritime, Port, and Transportation be established for students at Pierce College and participating Community and Technical Colleges within the discipline of Homeland Security and Emergency Management. The program request is strengthened through support from the Homeland Security Emergency Management Center of Excellence (HSEM CoE), its industry advisory board, and other organizations within the industry across the State.

## **Purpose**

The purpose of the program is to provide continuing education/workforce support for those students who wish to strengthen their education and employment opportunities with requirements specializing in the security of the maritime, port, and transportation industry. Although not a degree program, the focus of the courses would serve as a gateway to further pursuit of an Associate’s Degree within the field of Homeland Security and Emergency Management, in addition to exercising theoretical and applied research into protecting these industry sectors which serve as both the State’s economic strength and global trade vehicles.

The program would be designed to generate higher education level learning in key areas specific to the maritime, port, and transportation industry. This approach exemplifies the whole community model under the National Incident Management System (FEMA, 2015).[[1]](#footnote-1) The education provides a foundation which increases mitigation efforts to strengthen multiple areas of the core capabilities defined by the Department of Homeland Security and FEMA under the National Preparedness Goals (FEMA, 2011).[[2]](#footnote-2)

## **Statement of Need**

The Maritime, Port, and Transportation security industry often seeks talented personnel to serve in numerous roles that contribute to the overall management of these vulnerable areas directly and indirectly. The potential target areas that this certificate program, specific to Washington State, would encompass the private and public maritime industry; the numerous ports including airports, maritime ports, the border, and other embarkation/disembarkation, and border entry points; and finally logistics and other transportation specific systems, including rail and trucking companies. Indirectly, the Maritime, Port, and Transportation programs can extend into the occupational arenas of non-port areas dealing with inter-governmental regulatory and compliance requirements extending from all corners of the State and country. Some of the key areas strengthened by employees who may participate in this program could include: Vessel protection and management; commercial fishing security; container security and management; airport screening operations; freight security specialists, and many more options. Some job functions include working in areas that manage programs including the Customs-Trade, Partnership Against Terrorism (C-TPAT) (Johnson, 2013).[[3]](#footnote-3) The purpose of presenting a Certificate Program is to develop the necessary skills for advancement and beginning post-high school education within the security field, but also contributing to the transnational security threat from increased global trade systems which serves a majority of Washington State’s economy.

There is a need for workforce improvement education documented by the Washington State Department of Commerce, from which there is evidential need by the industry management to obtain professionals within this specialized industry. According to the State’s Maritime Leadership within the Department:

“*Despite the diversity of the sector, many issues are important to all segments of the industry. Improved transportation infrastructure and workforce education and training are good examples. We will work with stakeholders to create coalitions to promote these improvements and to raise awareness of the importance of maritime activity to our economy*” (Department of Commerce, 2015).[[4]](#footnote-4)

Although the Certificate program is not a degree course, this program will provide opportunities for entry level employment from which there are multiple tracks within the industry for the successful student to grow, with solid vertical and lateral movement at both a high rate and rapid growth potential. Maritime employees received over $4 billion in wages in 2012 alone, with an average of $70,000 earned, which is higher than the State average.[[5]](#footnote-5) The wages alone do not demonstrate how much of an economic impact this industry has on Washington State’s economy, it’s the total output that employees contributed to, from which the Washington State Maritime Industry provides for “…146,000 jobs in the State and $30 billion in economic activity” (Department of Commerce, 2015).[[6]](#footnote-6) The information gathered from the industry is specific to the maritime industry, but the economic indicators for the ports and other logistics industry vehicles demonstrate that there is a gap within the industry from which higher education within the Community and Technical College system in Washington State could bridge, which then strengthens the potential for security professionals at the entry level and those who are seeking promotion.

# **Occupational Outlook**

Legitimizing the demand for entry level positions involving security within the maritime, port, and transportation industry, can be a tough sell due to the constraints of the lack of data. The United States Bureau of Labor and Statistics (BLS), provides data in increments of 10-year projections, which in 2013 the 2012-2022 statistics were published. The workforce demand for employees with education above the high school level is in greater need due to the growth of worker supply. Specifically related to those employees with a non-degree level of college, including technical certificates, and at a minimum of some college, the BLS projects by 2022 there will be a 15.7% increase in entry level opportunities (BLS, 2013).[[7]](#footnote-7) The National Preparedness Goal is demanding further development of long-term mitigation at all levels, which means including professionalizing the workforce involved in these disciplines at the entry-level and above.

At the national level, the career paths for someone entering the workforce with a Certificate in Maritime, Ports, and Transportation, will be highly competitive to those who simply have a High School Diploma. In addition, the positions defined by this Certificate program are highly diverse and can fall into many categories. The U.S. Department of Labor’s O\*Net Database breaks down the industry areas for which these occupations demonstrate the growth potential. *Table 1* provides a snapshot of a few of these positions from which the Certificate could be used to strengthen an individual’s background and existing experience.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SOC Code** | **Occupational Title** | **% of Employees Reported Hired with a Post-Secondary Certificate** | **Projected Growth** | **Washington State Projected Growth** | **Washington State Median Wage** |
| 53-6051.08 | Freight and Cargo Inspectors | 26% | 8% to 14% | 5% | $57,200 |
| 13-1041.04 | Government Property Inspectors and Investigators | 41% | 3% to 7% | 9%**\*\*** | $68,800 |
| 53-5021.02 | Mates- Ship, Boat, and Barge | 46% | 8% to 14% | 20%**\*\*** | $72,900 |

**Source:** O\*Net Online. Available at: <http://www.onetonline.org/find/industry?i=0&g=Go>

**\*\*** **Denotes** WA State growth is greater than that of the national average.

## **Competency Alignment**

The Maritime, Port, and Transportation Certificate Program will align itself to competencies that many careers within the transportation need, to strengthen the national preparedness goals and the resiliency of the economic core within Washington State. To illustrate this connection, the occupation category samples listed in *Table 1* defined by the U.S. Department of Labor’s O\*Net Database share some of their necessary competencies, which would be strengthened through the education that would be provided within the Certificate Program. These key job function examples require the following:

1. **Freight and Cargo Inspectors**

**(Sample of reported job titles: Cargo Surveyor, Inspector, Marine Cargo Surveyor, Marine Surveyor, Petroleum Inspector, Surveyor):**

* 1. KSAs include: **Public Safety and Security** — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.[[8]](#footnote-8)
  2. **Local Job Opening Profile:** American Cybersystems Inc. (ACS Group) is one such company looking for a Shipping and Receiving Coordinator in Seattle.[[9]](#footnote-9) Of the core requirements and competencies, this position requires beyond the high school education, additional 1-Year of training/experience.

1. **Government Property Inspectors and Investigators**

**(Sample of reported job titles: Airport Operations Officer, Asset Manager, Construction Inspector, Housing Inspector, Housing Management Representative):**

* 1. Although this occupation series is specific to government property, the ports, roads, waterways, and railways are all managed under a coordinated system between private industry and government resources. The purpose of jobs within this occupational series investigates or inspect government property to ensure compliance with contract agreements and government regulations.[[10]](#footnote-10)
  2. **Local Job Opening Profile:** The City of Seattle is looking for a Watershed Inspector with a background that connects security, safety, and critical infrastructure management with emergency procedures. In addition there is a minimum of 1-Year of College as an initial requirement.[[11]](#footnote-11)

1. **Mates – Ship, Boat, and Barge:**

**(Sample of reported job titles: Barge Mate, Cargo Mate, Coastal Tug Mate, Deck Engineer, Mate, Relief Master, Relief Mate, Training Mate, Tugboat Mate):**

* 1. Similar to the Freight and Cargo Inspector Occupational Series, the Mates Series requires KSAs inclusive of **Public Safety and Security** — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.[[12]](#footnote-12)
  2. **Local Job Opening Profile:** Viggor Industrial is currently hiring a number of Riggers and is one of the largest ship repair/building companies in Washington State. The rigger is responsible for safety and security, including Hazardous Waste Operations and Emergency Response and Fire Watch.[[13]](#footnote-13) Although it starts with a High School Diploma, the company is requiring additional education/experience for consideration.

These occupational series and job openings are but a small sample of the careers locally, but the certificate program leads to national and international opportunities for students who wish to take these courses. The Homeland Security Emergency Management Center of Excellence’s Advisory Board consists of industry professionals who also serve as hiring managers for their respective organizations. Additional companies have stated they would hire entry level employees who have obtained the Maritime, Ports, and Transportation Certificate. These companies include APM Terminals out of Tacoma, from which Marvin Ferreira who is the Health, Safety, and Security Manager and an advisory board member of the Homeland Security Emergency Management Center of Excellence, has supported the need for the Certificate Program and has expressed an interest in hiring candidates from this pool first.

# **Curriculum**

The curriculum for the Maritime, Port, and Transportation Security Certificate Program will be structured to match the competency needs of the workforce and the opportunities available within the Technical and Community College system throughout the State of Washington. The competency areas defined by the industry have commonality throughout the different levels of government, and the private industries involved in these areas. The academic competencies this program will require, come from a comprehensive review of academic areas addressed by established systems from multiple sources including:

1. **U.S. Department of Labor Career One Stop: Enterprise Security Model**[[14]](#footnote-14)
   1. Security Fundamentals
   2. Business Foundations
   3. Critical & Analytical Thinking
   4. STEM literacy
   5. Reading & Writing
   6. Communication
2. **United States Department of Transportation’s Merchant Marine Academy**[[15]](#footnote-15)
   1. The role of ports and marine transportation in logistics and transportation systems
   2. The development of a systematic view of vessel and facility security
   3. Inculcation of a risk-based decision-making perspective
   4. The effective application of information technology
3. **International Maritime Organization [IMO] (International Ship and Port Security & U.S. Maritime Security Act of 2002)**[[16]](#footnote-16)
   1. Maritime Security & Antiterrorism
   2. Maritime Security Regulatory Requirements & Policies
   3. Maritime Security Assessments
   4. Facility & Vessel Security Plans
   5. Threat Identification Recognition & Response
   6. Ship & Port Security Actions
   7. Emergency Preparedness, Drills & Exercises, and Security Training

The review of the many requirements within the industry across the United States, and emerging from within public and private agency needs, the course content for the Maritime, Port, and Transportation Security Certificate Program, provided by Pierce College and supported through the Homeland Security Emergency Management Center of Excellence, will consist of the following competency areas:

1. Terrorism and Organized Crime
2. Legal, Regulatory, and Governance Systems
3. Border Security
4. Safety Management
5. CBRNE Threats
6. Securing Supply Lines, Vessels, and Transportation Hubs

The courses will be comprised of a mixture of courses already offered through Pierce College and courses which will be created for the Certificate and other associated programs. The Certificate Program will also be applied to those Community and Technical colleges who have collaboration agreements, to provide the infrastructure for their students to take the Certificate Program through Pierce. In addition, the certificate program could be used as a pathway into completing the Associates Degree and in the future, the BAS Degree in Homeland Security Emergency Management Program.

# **Appendix A**

**Recommended Program Guide**

|  |  |  |
| --- | --- | --- |
| **Competency Area** | **Current Pierce College Courses** | **New Courses to be Generated** |
| **Terrorism and Organized Crime** | **HSEM 160 Terrorism\*\* - 5 Credits** Provides the student with the fundamental knowledge of the conditions leading to the mobilization of radical and criminal elements of societies, along with understanding the approaches to countermeasures and risk management under the Homeland Security systems. | N/A |
| **Legal, Regulatory, and Governance Systems** | **HSEM 250 HS Laws and Ethics\*\* - 5 Credits** Introduces the student to the principles of laws, charters, and treaties that affect the national and international management of the HSEM system. Some of the areas will include maritime law, trade agreements, terrorism laws, and the legal institutions and tools from which the system operates in the protection of the homeland, including response jurisdiction. | N/A |
| **Border Security** | N/A | **HSEM 190D Issues in Border Security – 3 Credits** Provides the student with the understanding of the issues in the security of the border, with consideration of the ports of access, human smuggling operations, international controls, and the threats that have emerged within Washington State. |
| **Safety** | **OSH 100 Intro to OSH – 5 Credits** Provides the student with the basic knowledge needed for managing risk, compliance, and emergency response, including OSH requirements for the industry. | N/A |
| **CBRNE Threats** | N/A | **HSEM 190C Fundamentals of WMD – 3 Credits** The student is provide with the fundamental knowledge in understanding the principles of WMD as it relates to the industry. The focus includes what compromises a CBRNE threat, the smuggling of weapons, localized industrial exposures during transportation, issues in recognition and response, and countermeasures. |
| **Securing Supply Lines, Vessels, and Transportation Hubs** | N/A | **HSEM 190B Industry Security – 3 Credits**  Engages the student with understanding the practical approaches to security management of the systems from which the ports and transportation infrastructure operates. |

**\*\* Courses will go through Review Process for both content and context to meet industry needs.**

* + - **All Courses will be placed into a Quality Matters review process for certification**

1. FEMA. (2015, March 19). *National Preparedness Goal*. Retrieved from Department of Homeland Security; Federal Emergency Management Agency: https://www.fema.gov/national-preparedness-goal [↑](#footnote-ref-1)
2. FEMA. (2011). *Crosswalk of Target Capabilities to Core Capabilities.* Retrieved from Federal Emergency Management Agency: Media Library: http://www.fema.gov/media-library-data/20130726-1854-25045-1651/crosswalk\_1\_.pdf [↑](#footnote-ref-2)
3. Johnson, B. S. (2013). Transnational Terrorism: Globalization, Voluntary Compliance, and U.S. Port Security. *Global Studies Journal*, *5*(4), 65-76. [↑](#footnote-ref-3)
4. Department of Commerce. (2015). *Economic Development*. Retrieved from WA State Maritime Industry: http://www.commerce.wa.gov/Economic-Development/Industry-Sectors/Pages/Washington-State-Maritime.aspx [↑](#footnote-ref-4)
5. Ibid [↑](#footnote-ref-5)
6. Department of Commerce. (2015). *Economic Development*. Retrieved from WA State Maritime Industry: http://www.commerce.wa.gov/Economic-Development/Industry-Sectors/Pages/Washington-State-Maritime.aspx [↑](#footnote-ref-6)
7. BLS. (2013, Dec 19). *Employment by summary education and training assignment, 2012 and projected 2022.* Retrieved from Bureau of Labor & Statistics: Economic News Release: http://www.bls.gov/news.release/ecopro.t07.htm [↑](#footnote-ref-7)
8. O\*Net Online. (2014). *Summary Report for: 53-6051.08 - Freight and Cargo Inspectors*. ONet Online: American Job Center Network. Retrieved from: http://www.onetonline.org/link/summary/53-6051.08. [↑](#footnote-ref-8)
9. Career Builder. (2015). *ACS Group: Shipping and Receiving Coordinator*. Retrieved April 23, 2015, from http://www.careerbuilder.com/jobseeker/jobs/jobdetails.aspx?sc\_cmp1=js\_jrp\_jobclick&APath=2.21.0.0.0&job\_did=J3L5ZN6V8PCVL0PRKLZ&showNewJDP=yes&IPath=ILKGV2Y [↑](#footnote-ref-9)
10. O\*Net Online. (2014). *Summary Report for: 13-1041.04 - Government Property Inspectors and Investigators*. ONet Online: American Job Center Network. Retrieved from: http://www.onetonline.org/link/summary/13-1041.04. [↑](#footnote-ref-10)
11. City of Seattle. (2015). *Job Class Specification for:**Watershed Inspector*. Seattle Department of Human Resources (Seattle.Gov). Retrieved from: http://www.seattle.gov/personnel/resources/specifications.asp?schematic=5056504 [↑](#footnote-ref-11)
12. O\*Net Online. (2014). *Summary Report for: 53-5021.02 - Mates- Ship, Boat, and Barge*. ONet Online: American Job Center Network. Retrieved from: http://www.onetonline.org/link/summary/53-5021.02. [↑](#footnote-ref-12)
13. Vigor Industrial, (2015). *Rigger - Associate 2,3,4 – SEA*. Careers at Vigor Industrial. Retrieved from: http://vigorindustrial.hrmdirect.com/employment/view.php?req=246430&jbsrc=1014&source=Indeed.com [↑](#footnote-ref-13)
14. Competency Clearing House. (2015). *Enterprise Security Competency Model*. ASIS Foundation. Available at http://www.careeronestop.org/CompetencyModel/competency-models/Enterprise-Security.aspx [↑](#footnote-ref-14)
15. USMMA. (2015). *Maritime Logistics and Security Program: Overview*. United States Merchant Marine Academy: Kings Point. Retrieved From http://www.usmma.edu/academics/departments/maritime-logistics-and-security-program [↑](#footnote-ref-15)
16. MAREX. (2011). *Security Training Requirements for the Maritime Community*. Maritime Executive: Security Training. Retrieved from http://www.maritimesecurity.org/MSC%20Originals/8.%20Security%20Tng%20for%20Maritime%20Community%20%20-%20MarEx%20Oct%202011.pdf [↑](#footnote-ref-16)