

# Self-Study

Department of Marine Transportation  
California State University Maritime Academy

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Year degree initiated: 1974  
Date of last accreditation: 03/01/2011  
Date of last program review: March 2011

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### **Summary/Findings/Determinations**

- Of the eleven recommendations in the 2011 program review, nine have been completed, one needs revision due to STCW changes, and one, developing an alumni survey, remains outstanding. Revised Program Learning Outcomes were approved in August 2016. Program Quality is now supported and evidenced primarily by a Departmental Assessment Plan and STCW audits, as well as course portfolios for all STCW or sea-time courses, USCG License Exams, input from the Industry Advisory Board, and assessment of select student projects and courses.
  
- This review has highlighted major, immediate departmental challenges:
  - o Increasing burden of STCW assessments and record-keeping requirements are straining departmental resources. (MT faculty currently design, conduct and record over 40,000 individual assessments per year.)
  - o Since 2012, MT tenure-track faculty density has dropped precipitously from a long-time historical norm of 75% to less than 50%. Rebuilding tenure-track faculty density to historical levels is necessary to adequately maintain the program.
  - o Attracting senior licensed candidates with advanced degrees at salaries well below industry norms, is an ongoing challenge. Allowing the department to hire MVIs would facilitate rebuilding the department with permanent faculty.
  - o Cruise calendar faculty have decreased by half since 2012, while student enrollment/retention and cruise workload (due to STCW) has increased.
  - o Academic Advising load has increased by 54% since 2012.
  - o Many training platforms and equipment (small craft, etc.) are aging, and some are obsolete.
  - o Simulation facilities are in desperate need of updating.
  - o Safety training equipment (liferafts/immersion suits) are worn out. Currently there is no budgetary support to replace this gear.

## 1. Purpose of Review

This comprehensive program review self-study is being conducted by the Marine Transportation (MT) Department of the California State University Maritime Academy (Cal Maritime) in order to assess the educational capacity and effectiveness of our program. It seeks to determine, through honest criticism, analysis, and introspection, how well the department is serving its students in particular and the maritime industry in general.

Additionally, this review is being conducted to ensure that the program is meeting the criteria set out in the institution's strategic mission statement as well as meeting the department's own mission goals. The faculty of the MT Department at Cal Maritime firmly believe that our program is one of the best of its kind in the United States. Any criticism of the program contained herein should be taken constructively as a means to promote further improvements in a program that remains highly popular among students and well respected throughout the maritime community. Accordingly, this self-study will also identify components of the program that we believe to be effectively administered and explain why we came to those conclusions.

Specifically, this study seeks to:

- Examine the current status of the program's activities
- Explain the program's mission, objectives and student learning outcomes
- Identify strengths and weaknesses
- Review current assessment methods and plan improvements until the next review period
- Serve as a strategic plan for the future of the Marine Transportation program

The format of this review is based on WASC standards and Cal Maritime's Academic Program Review Guide, August 2016. The detail of format structure is reflected in the table of contents.

## 2. Introduction and Context

### A. Program History

The California State University Maritime Academy has a long and unique history. Founded in 1929 as the California Nautical School in Tiburon, California, the institution evolved over the decades and has been a significant part of California's and the nation's maritime history for 87 years.

The California Nautical School became the California Maritime Academy after the passage of the 1936 Merchant Marine Act and was renamed California State University Maritime Academy in 2015. Cal Maritime is the only state maritime academy on the West Coast. Four other maritime academies exist on the East Coast, one on the Gulf Coast, and one on the Great Lakes.

As part of the Act of 1936, new facilities were constructed at Morrow Cove in Vallejo to

house the new academy. With World War II looming in 1940, the school moved temporarily to San Francisco and the programs were shortened to accelerate Merchant Marine and Naval Reserve officers into the war effort. Finally, in 1943, the school and its training ship moved to their present location in Vallejo. Cal Maritime's facilities grew slowly until around 1995 when a flurry of new construction on campus began, and the aging training ship was replaced with a much more modern vessel. Since 2000, a period of new growth in building construction has occurred like no other period since the institution was established. These new buildings and facilities include the Technology Center, an engineering and physical lab building, a world-class marine simulation facility, a new residence facility, and the new sports and aquatics center.

The institution transitioned from a three-year to a four-year college degree program in the late 1970s and became accredited by the Western Association of Schools & Colleges (WASC) in 1977. Cal Maritime became a regional maritime institution and joined the Western Undergraduate Exchange program. Cal Maritime serves as the regional maritime academy for the western states by granting access for out-of-state students from many western maritime states, including Oregon, Washington, Alaska, Hawaii, and Island Protectorates (as required by federal law).

Cal Maritime has a long and distinguished history of serving the needs of the U.S. maritime industry with merchant ship deck and engineering officers for all sizes and types of vessels. Many licensed graduates later transition into important shoreside positions in various industries. Many Cal Maritime graduates have served the country as naval or merchant officers in times of war or national emergency. This long tradition of service by Cal Maritime alumni led to the adoption of Cal Maritime's motto: *Labore Pugnare Parati Sumus* - "In work or war, we are ready."

Recognizing that our graduates would need more business-specific acumen later in their careers, the MT department created a transportation related business minor in the early 1990s focusing on the skills senior-level mariners would need for later transition to shore management or graduate school. As this program evolved, it grew in size and scope, eventually leading to a separate program under an independent business department. This International Business and Logistics program has evolved from a mid-management and operational level focus to a more globally oriented generic business program to serve constituents beyond the terminal manager's level.

A technical minor was created in 2001 in response to the tug and supply boat sectors' desire to have licensed mates with Qualified Members of the Engine Department (QMED) endorsements in addition to their deck licenses. This minor, administered by the Engineering Technology Department in consultation with the MT Department, was very popular among the MT students and employers. However, due to increased numbers of students in the engineering programs, the QMED program has been put in abeyance until further notice.

Although the QMED minor (23 units) is not currently offered, MT students can take several other minors offered by other departments at Cal Maritime, including:

- Business Administration (24 units)
- Law (17-19 units)
- Global Studies and Maritime Affairs (15 units)
- Mathematics (22 units)
- Marine Science (15 units)
- Naval Science (15 units)

Each of these minors requires a number of units (in parentheses) in addition to those required in the standard MT degree.

While there is constant upgrading of curriculum and course content to reflect changing demands and evolutions in the maritime industries, there has been only two program reviews since Cal Maritime joined the California State University System (CSU) in 1995. The first was in 1997 and an insufficient time had then elapsed to determine adequately the impacts on the MT program of its new association with the CSU.

The most recent program review was conducted in 2011. While there have been several minor changes to the curriculum in the past five years, much of that review is relevant today. The data presented in the previous review has been brought up to date in this document.

The 2011 program review included the following specific recommendations, with current status in brackets:

- TSGB Program for Juniors: The MT department should develop a cruise program for juniors on the TSGB. [Completed. In recent years, several juniors have participated in that program due to a shortfall in commercial cruise billets.]
- One Cruise Scenario: The MT department should, in the next 2-3 years develop a cruise plan that would accommodate all of its 1/C and 3/C on a single cruise. [Completed. During 2012 and 2013, that plan was carried out. We will again conduct a single cruise during the summer of 2018 due to the drydock requirement for the training ship and it is likely that we will continue to operate one cruise per summer into the foreseeable future.]
- The department should conduct an internal review of its navigation subject components and sequence to determine a more synergistic connection between all navigation courses. [The review was completed but the proposed curriculum change was not supported by the majority of the department.]
- MT should, in cooperation with Admissions, design a plan to accept returning veterans into the MT program and examine how their military training experience can substitute for academic credit. [This was examined, but should be revisited in light of a revision to the STCW code. Currently, three department faculty serve as curriculum evaluators for military courses with the American Council on Education.]
- The MT department should produce a quick reference book of advising guidelines and information resources sufficient that new faculty could quickly understand the role of advisor and how to give proper academic advice for both the major and minors. [Completed, but needs to be revised.]
- Explore with Academic Affairs on potential ways to assist the department with more convenient clerical support. [Completed. A new Academic Support Coordinator position



was created and staffed. There has been frequent turnover in that position, however, and the position was empty for significant periods.]

- Submit a lab fee proposal to the Fee Committee to institute a small lab fee for DL-105 Marine Survival. [Not approved.]
- The department should complete its formation of a formal internal assessment review program. [Completed. Revised in Summer 2016. Assessment is in progress.]
- Conduct a thorough statistical analysis of license data now that it has been obtained to review performance and identify trends. [Completed. However, the analysis should be repeated with the assistance of the university's office of Institutional Research.]
- Discuss further the department's position whether or not to continue requiring License Seminar as a graduation requirement. [Completed. The department decided to continue to require the course.]
- The department should design a formal post-graduation alumni survey program to gather important feedback from graduates. [Still outstanding.]

In the 2015-16 academic year, it was decided that the academic departments should be reorganized into three schools. Starting Fall 2018, Marine Transportation will join the departments of International Business and Logistics (IBL) and Naval Science (NS) and form a new school. Planning for that transition is now underway.

## B. Department Mission

The mission of the department of Marine Transportation is to develop in our graduates the practical skills, judgment, character, and leadership traits necessary to become leaders in the maritime industry, both at sea and ashore. To this end, by way of practical and theoretical training at sea, in simulators, and in the classroom, the Marine Transportation program seeks to do the following:

- prepare our students to meet, along with a wide array of seamanship and advanced mariners' skills, all U.S. Coast Guard and international requirements for Second Mate / Officer-in-Charge of the Navigational Watch at the operational level
- provide them with a well-rounded liberal education culminating in a Bachelor of Science degree in accordance with California State University requirements
- imbue in them a strong sense of ethics, personal integrity, accountability, and officership
- provide opportunities to develop the leadership and communication skills to be an effective leader
- provide opportunities for obtaining various additional maritime professional certifications.

Critical to the mission of our program is the need to provide the student with the intellectual tools they will need to continue learning and adapting to an ever-changing industry throughout their careers and in their own lifelong citizenship.

### C. Educational Outcomes

The Marine Transportation Program Learning Outcomes were revised during the summer of 2016. The revised outcomes were approved by the department faculty in August, 2016. The outcomes are as follows:

Outcome 1: Graduates will complete all STCW competencies, pass all USCG licensing examinations, and demonstrate practical application of the skills required for these achievements.

Outcome 2: Graduates will demonstrate expertise in the concepts, policy, and technologies of the maritime transportation field both at sea and on land.

Outcome 3: Graduates will apply current nautical theory to emerging technologies, systems, and structures, and demonstrate a commitment to continuous improvement and lifelong learning in the maritime industry or otherwise.

Outcome 4: Graduates will demonstrate the ability to work effectively in professional teams as an influential member or leader, set achievable goals, and accomplish them with quality, safety, and timeliness.

Outcome 5: Graduates will demonstrate effective communication skills and the ability to put together compelling arguments in technical environments through speaking, writing, and presenting.

Outcomes 6: Graduates will develop a respect for professional, ethical, and social responsibilities and identify current national and global impacts of the maritime industry.

Outcomes 7: Graduates will demonstrate the ability to analyze projects, objectively evaluate numerical data, and understand the role of personal and environmental safety in the workplace.

### D. External Context

Much of the MT program is a direct reflection of the changes that have occurred within the global maritime and transportation industries. The program has evolved to meet the challenges faced by the industry with respect to licensed professional mariners, including having multi-focused business minors associated with the major. Career competition between all U.S. maritime academy graduates has been and remains keen. With all six state maritime academies increasing the number of graduates with the same entry-level licenses, Cal Maritime's reputation for unique "value-added" elements above and beyond the base professional license and degree continues to be an important focus for the MT program.

The maritime industry has always been an industry subject to the cyclic nature of world events. Some of the major challenges facing the industry in the next 5-15 years include:

- A predicted severe shortage worldwide of ship's officers and unlicensed ratings
- Retention of mariners in the industry worldwide
- Increasing specialization of operations requiring additional training
- International movement away from generalized professional licenses in favor of base licenses with specialized endorsements
- Adequate training of mariners to operate increasingly sophisticated navigation systems
- Greater sophistication and investment in shipboard and terminal cargo, operations control and communications technologies
- Continued trends in reduced manning levels for all vessels
- International and domestic pressures for mandated training
- Increased demands to meet ever-emerging environmental standards in emissions, waste streams, and other constraints to operational flexibility
- New developments in alternate energy sources and technologies for U.S. energy markets
- Fluctuations in world oil prices resulting in a changing job market
- Utilization of U.S. licensed officers on foreign-flagged vessels
- Greater marine traffic density worldwide
- Growing security challenges to maritime industries and infrastructures
- Trends toward criminalization of the mariner
- Expectations for graduates to perform immediately with little or no on-the-job training
- Moving standards beyond STCW minimums
- Global business partnerships and processes
- Business management innovations
- The development of autonomous and remotely piloted vessels

Cal Maritime serves many transportation industries that will be facing these and other challenges and opportunities. As a result, the MT program will likewise face many of the same challenges in preparing a work force and future leaders for those industries that operate in a global marketplace.

Below are listed some of the unique challenges that the MT Department will face in the next 5-15 years:

- Responding to the challenges of the world-wide maritime industry
- Decreased state funding support (common to all disciplines)
- Decreased federal funding support (U.S. Maritime Administration)
- Developing new avenues of direct industry support
- Evolving demographics in student population
- Retirement of senior department personnel
- Faculty recruitment, retention and professional currency
- Replacement of aging training platforms and equipment (small craft, fork lifts, etc.)
- Meeting the industry's shore business expectation for specialized MT-oriented graduates
- Researching pedagogical changes to compliment industry technology development and

- how best to utilize simulation capability across the curriculum
- Accommodating the increasing demand for the MT degree program while maintaining high educational standards
- Negative effects of the increasing number of students on the TS *Golden Bear* summer cruises
- Managing the growing administrative burden of STCW
- Integrating with International Business and Logistics into the planned School of Maritime Transportation, Logistics, and Management (name pending)
- Competing with other academic programs for scarce resources as the university grows in the coming years
- Modernizing of MT curriculum to maintain relevance well into the 21st century

In recent years, the MT Department has actively worked in response to the above challenges. For example, to mitigate the negative effects on training caused by the growth of the number of cadets on the annual training cruises, the Navigation Laboratory was installed on the *Golden Bear*. This facility contains modern navigation and simulation equipment and is used to augment the few opportunities that cadets have to stand watch on the bridge of the ship. In order to maintain high educational standards, the CSU declared the program impacted and the department raised the admission requirements.

In order to meet the other as yet unforeseen challenges of the next 5-10 years, the MT program will have to stay current with industry trends, request more industry feedback, develop more suitable assessment methods, and attempt to increase vibrant outside funding sources with a faculty dedicated to the unique character of Cal Maritime.

### **3. Analysis of Evidence about Program Quality**

#### **A. Assessment of Program's Outcomes**

The effectiveness of the Marine Transportation program is assessed in multiple ways, using multiple tools, as follows:

Assessment of Program Learning Outcomes (PLOs). The MT Department Assessment Plan is included in Appendix 1. This assessment plan includes outcomes and performance criteria. Each outcome is assessed on a four-year cycle. In 2016, the learning outcomes were reviewed, revised, and linked to the Institution Wide Student Learning Outcomes (IWSLOs). As assessment data for Program Learning Outcomes are collected and analyzed, the results are provided to the Institution Wide Assessment Council for use in assessing IWSLOs.

Because of the recent revision of the PLOs assessment data is not yet available. However, assessment data is available for the IWSLOs. The data, below, are the outcomes for MT students. It is apparent that progress needs to be made in several of the institution-wide outcomes.

Year	IWSLO	Benchmark	Evaluation
2013	IWSLO I: Ethical Awareness	70% achieve score > 4	Standard not met
2013	IWSLO G: Information Fluency	70% achieve score > 4	Standard not met
2014	IWSLO C: Quantitative Reasoning	70% achieve score > 4	Standard met
2015	IWSLO A: Communications	70% achieve score > 4	Standard not met
2015	IWSLO D:Scientific Reasoning	70% achieve score > 4	Standard not met
2016	IWSLO B: Critical & Creative Thinking	70% achieve score > 4	Standard not met
2016	IWSLO J: Global Learning	70% achieve score > 4	Standard met

STCW. The Marine Transportation program is regulated by the United States Coast Guard (USCG). In order to be awarded the degree, a student needs to complete all academic requirements, pass the week-long series of exams administered by the Coast Guard, and successfully demonstrate competence in more than 500 tasks, as stipulated by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (or STCW). With 330 students currently in the program, the MT faculty conduct more than 160,000 individual assessments of student competence in a four year period. The assessment standards and criteria for evaluation are specified in control sheets for each competence. The STCW program is audited by the Coast Guard, with representatives from other maritime academies and the maritime industry, on a three year cycle. Based on the results of the last audit, in 2015, the STCW program was revised and the tracking method was significantly changed. At present, Cal Maritime is developing an electronic tracking system for the assessments in order to make data input quicker and provide better analysis and display of the results.

Course Portfolios. Course portfolios have been created and are maintained for all courses designated as STCW or sea-time courses. Course portfolios contain the following items:

- Course syllabus that includes program outcomes accomplished in that course
- Instructor certification of assessments conducted. This sheet documents successful completion of assessments conducted in the course for each student.
- Assessment control sheets that specify the standards and criteria for successful demonstration of competence.
- Copies of sample student work including quizzes, exams, papers and evaluations of performance in simulation type courses. Included with this is an evaluation by the instructor on how this work demonstrates that the program outcomes were met.
- Attendance rosters.

Third Party Exams. All graduates of the MT program must have successfully passed a third party exam, the US Coast Guard 3rd Mate's exam. This exam has seven parts and every section must be passed with a score of 70% or better. (Some sections require a score of 90%.) A student who passes all but one or two exams is required to retake only the exams that were failed. Students who fail more than two parts of the exam are required to retake all seven parts. Recent exam pass rates for the first attempt are shown, below, and in Appendix D.

## USCG Exam Results

Year	Exams	Passed All		Passed $\geq 5$		Retests Required		
		#	%	#	%	1	2	All
2008	56	24	42.86%	52	92.86%	22	6	4
2009	55	19	34.55%	50	90.91%	24	7	5
2010	68	28	41.18%	56	82.35%	18	10	12
2011	63	37	58.73%	61	96.83%	17	7	2
2012	63	25	39.68%	57	90.48%	20	12	6
2013	62	39	62.90%	59	95.16%	14	6	3
2014	81	44	54.32%	70	86.42%	16	10	11
2015	42	26	61.90%	35	83.33%	5	4	7
2016	43	30	69.77%	40	93.02%	10	0	3

Maritime Industrial Advisory Board. Cal Maritime has a very active Maritime Industrial Advisory Board that meets twice a year. Board members are nominated by the department chairs, academic dean, provost, or director of Marine Programs and are approved by the president. The board provides input on our academic program and on the changing needs of the maritime industry. The board is a vital source of feedback on the performance of recent graduates.

Project Evaluation. Throughout the MT program, students are involved in major projects. These include the cruise, bridge and radar simulators and the 'capstone' Bridge Resource Management course, DL 420 Bridge Watchstanding Simulation. These projects require the utilization of knowledge and skills gained in a number of courses. Additionally, these projects demonstrate the students' success in accomplishing multiple program outcomes. Rubrics and evaluation sheets are used to evaluate the accomplishment of the multiple program outcomes using these projects.

#### B. Revision of the Assessment Plan and STCW Program

Historically, the department faculty have primarily focused on USCG license exam pass rates and completion of STCW assessments of competence as broad measures of our effectiveness. However, in the last two academic years, 2015-2016 and 2016-2017, the department has revised our assessment plan and have begun to collect and analyze other sources of data, as well, in order to better measure our effectiveness at achieving our learning outcomes. That plan is included in Appendix A.

As previously mentioned, our primary source of assessment data comes from more than 500 STCW assessments conducted for each student during the course of the academic program. In the spring of 2015, the department STCW program underwent an audit conducted by the Coast Guard, with representatives from other maritime academies, industry, and the U.S. Maritime Administration. The auditing team was critical of several aspects of the program, particularly in the areas of record keeping. In response to that audit, the department began a

major revision of the STCW program and submitted a Corrective Action Plan to the Coast Guard in October 2015. That plan was deemed acceptable. Since that time, the department has been working continually to develop and implement that revision. This is a major undertaking and very manpower intensive. Samples of STCW control sheets and matrices are included in Appendix B.

#### C. Sources for Outcomes

There are many different sources of feedback used to keep the MT program outcomes relevant to the changes within the industry and the changes instituted by the CSU. New requirements emerging from the industry, the Coast Guard, and the International Maritime Organization (IMO) must be continually monitored for long-reaching changes that might affect the MT program outcomes, especially those that require significant future program adaptations.

Faculty are kept up-to-date in the field through individual experiences, interactions with maritime professionals, conference participation, and review of the maritime and educational literature. In addition, department faculty regularly review web-based and periodical information sources about the industry, government websites on proposed and existing regulations, discussions with other maritime academy department chairs, student interaction, informal alumni contact, continued personal professional development, and national and international conferences dealing with maritime education and industry concerns.

### **4. Curriculum and Learning Environment**

#### A. Trends in Curriculum Development

There are a number of components to the MT curriculum. Given the general learning outcomes of the program, the program consists of two components provided directly by the MT Department: academic course curriculum and experiential learning (course labs and practical training). In addition, leadership opportunities and training are provided through the Edwards Leadership Development Program and the Corps of Cadets. Global experiences for MT students are primarily delivered during the three training cruises.

**Leadership Development.** The MT Department strongly encourages its students to participate in campus leadership experiences offered through the Corps of Cadets program. The development of the Edwards Leadership Development Program (ELDP) in recent years increased the learning opportunities, and the tracking and assessment of ELDP program outcomes have been formalized. The results of the assessment of leadership outcomes have not been published to date.

**Global Experiences.** Although every MT student participates in international travel during the three training cruises, there is no formal global experience program in place for MT students. As a result, the degree of student engagement in the local culture is left up to the individual. This unstructured shore time has some measure of support among department faculty. However, the department should, in the coming years, assess whether our students

are meeting the institution's student learning outcome for global awareness and, if they are not, examine possible strategies to improve this outcome.

**STCW Courses.** One of the critical elements of the curriculum is the requirement to conform to the Standards for Training, Certification and Watchkeeping (STCW). This international system of standards sets a minimum level of competence that must be demonstrated by all Officers in Charge of a Navigation Watch (OICNW). Over the course of the program, the performance of each student is assessed on more than 500 tasks in which they must demonstrate the required knowledge, understanding and/or proficiency. Each year, the MT Department performs tens of thousands of individual assessments. Each assessment is tracked and recorded. The STCW program is subject to government audit every three years.

Currently, the MT Department is systematically reviewing where and how each of the STCW assessments are being conducted. The goal of this review is to ensure that each assessment is conducted in a course with closely related learning outcomes while distributing the assessments across the curriculum on a more equitable basis. In the past, the majority of courses had no assigned STCW assessments, while some conducted more than 100 assessments. This proved to be a hindrance in accomplishing the course learning outcomes and resulted in an excessive workload for the faculty. It is likely that this curriculum review will take up to two more years to complete. It will require review by the Curriculum Committee as some additional courses will need to be labeled as STCW courses.

**New STCW Courses.** Revisions to the STCW Convention required additional subjects based on International Maritime Organization (IMO) model courses. The new requirements are Vessel Security Officer, Electronic Chart Display Information Systems (ECDIS), and Leadership and Management. The MT Department has already developed and assimilated these courses into the standard curriculum.

**Future Trends.** The Marine Transportation Department has plans to develop two new programs in the next five years. We plan to develop a master's degree with a license option to attract the large number of potential students who have previously completed bachelor degrees. We also plan to offer a non-license program in Maritime Management to retain those students who, after completion of a significant portion of the MT degree, cannot, often for medical reasons, or choose not to, due to suitability/aptitude/personal reasons, pursue a third mate license.

## B. General Education and Service Courses

The MT program was approved prior to Cal Maritime's entry into the CSU and the program does not meet the current CSU standards for General Education in Life Science (Area B) or Lifelong Understanding (Area E). Because the program requires significantly more units than the standard 120, it would be difficult to add additional GE courses. The department should, however, continue to explore options to increase the number and variety of GE offerings.

General education courses are taught by faculty of other academic departments on campus. The MT department is satisfied with the quality of the GE instruction and course content.



However, as discussed previously, assessment of the Institution Wide Student Learning Outcomes indicates that many MT students are not meeting the benchmarks. The MT department needs to work closely with the faculty in the departments that deliver those courses to explore ways to increase our students' success in those areas.

The MT department offers two service courses to students in the Marine Engineering Technology (MET) program, the Facilities Engineering Technology (FET) program, and the Mechanical Engineering (ME) program. The courses, Marine Survival (DL 105) and VPDS (NAU 104), are also required for MT students and are assessed by MT faculty.

### C. Content of the Curriculum

The organization of the MT curriculum is designed using a building block approach of course work and complementary practical skills progression from the first semester through the last semester. The curriculum is intermixed with numerous practical laboratories (35% of curriculum) and reinforced with ever-increasing operational responsibility given to cadets from freshman up to senior. This organization design is the cornerstone for cadets to gain the understanding necessary for a successful career in the maritime industry. There is also a significant component of the program where learning is accomplished by peer teaching/learning. This type of group learning is present in many of the courses throughout the MT curriculum but is particularly prevalent on cruise and in the simulation classes. Although cadets can be the effective teachers for other cadets at times, the MT Department recognizes that supervision by qualified instructors can never be eliminated.

Program elements outside the traditional curriculum are designed for mission objectives that lie outside the traditional classroom. All of the elements are designed into a progressive and cohesive series of mutually supporting learning experiences.

The curriculum sheet in Appendix C illustrates how the curriculum fits courses together in mutually supportive ways. The entire program can be broken down into two main components:

- Classroom coursework (education, theory)
- Experiential Learning (practical training, applied learning, assessment)

The curriculum is designed to provide our graduates the knowledge and skills required to pass their licensing exam and to successfully demonstrate competence in all STCW assessments. Upon graduation, we expect that our students will be fully prepared for their first shipboard job and will have the ability to learn more advanced tasks on their own, as expected of officers with more seniority and experience.

### D. Curriculum Review Process

The MT curriculum is reviewed on an ongoing basis. Many of the changes to the curriculum are in response to new or revised regulations governing the licensing of professional mariners. In some cases, as requirements are published, new elements are incorporated into

existing courses. An example of this is the ongoing revision of multiple courses in order to assess all of the STCW tasks. In other cases, courses have to be added to the curriculum in order to meet the new requirements. Because the degree already requires 159 credits, the only option is to remove older courses that are deemed to be of less impact.

These changes are submitted to the institution's Curriculum Committee for analysis and vetting. The Curriculum Committee is a body of the Academic Senate. The committee's approval is then forwarded to the Provost for final approval and then given to the Academic Dean for implementation. For those courses that contain STCW or licensing elements, the changes must also be vetted by the STCW Committee and then sent to the USCG National Maritime Center for approval.

#### E. Curricular Changes

The following changes were made to the curriculum since the last review:

- Removed: Naval Science for the Merchant Marine Officer (NSC 100) – 3.0 credits. This class is taught by the department of Naval Science but was a required course for MT students. It was determined that it wasn't appropriate for US Navy personnel to continue to offer this class to students that are not in the Navy training program. The course credits were reallocated to two new classes, NAU 104 and NAU 106.
- Added: Vessel Personnel with Designated Security Duties (NAU 104) – 1.0 credit. This class was created in response to new provisions of the STCW code. All maritime personnel must satisfy this requirement.
- Added: Merchant Mariner Fundamentals (NAU 106) – 2.0 credits. This class was created as a replacement for NSC 100. It presents an overview of relationships between the U.S. Merchant Marine, the U.S. Navy, and Military Sealift Command; and discusses the International Maritime Organization and international maritime conventions such as SOLAS and STCW. This survey course covers several specific subject areas of concern to the professional mariner.
- Removed: Management and Organizational Behavior (MGT 105) – 3.0 credits. This class was removed in order to utilize the course credits for DL 301 and NAU 108.
- Added: Navigation Piloting Lab (DL 301) – 1.0 credits. This class was created in response to industry feedback concerning some of our recent graduates. In this course cadets get more experience in vessel handling, voyage planning, navigation, radio communication, and developing situational awareness.
- Added: Operational Command at Sea (NAU 108) – 2.0 credits. This class was created in response to new provisions of the STCW code. All Officers in Charge of a Navigation Watch are required to complete the leadership components contained in this course.
- Added: Maritime Casualty Seminar (NAU 420) – 3.0 credits. This class was developed to offer an additional branch elective to MT students. The course is a comprehensive study of commercial maritime casualties that impacted domestic regulatory schemes and international conventions. The focus is on the human element, and how diverse cultures, languages, and management styles aboard international commercial vessels impact human interactions with each other, with

- equipment, within watch teams, and with the vessels and agencies of other nations
- Added: Integrated Bridge-Engine Room Watch Management (DL 335) – 1.0 credit. This course is taught by faculty in the department of Engineering Technology (ET) and is taught in conjunction with that program's Engine simulation courses. It is an elective that does not meet any graduation requirement. The course is designed as a platform to provide experience in handling complex situations involving the engine plant and how they affect vessel operation as a whole.

#### F. Units in the Major

The major consists of 159 units, well above the CSU's 120 unit threshold. It should be noted that 24 units are completed at sea during the summer session. This time at sea is licensure requirement of the US Coast Guard and other regulatory bodies. The remaining 135 units consist of required general education courses and units in the major. The units in the major all contain elements required for professional licensure. In 2014, the CSU reviewed our program and awarded approval as a high-unit major.

#### G. Curriculum Comparison

The MT curriculum is very similar to that of equivalent programs at other state maritime academies. This is largely because most of the content is mandated by government regulation. The course titles vary among institutions and the content is distributed differently among the classes, but the program elements closely match.

The number of units required by programs at other academies is also very similar. For example, the MT program at Massachusetts Maritime Academy requires 149.5 units, 24 of which are earned at sea. Maine Maritime Academy requires 137 units, including 12 units earned at sea.

#### H. The Curriculum

See Appendix C for the current Marine Transportation Curriculum Sheet, as of July 2016.

## 5. Students

### A. Student Characteristics

The characteristics of the students in the program vary. Many come from families with naval or maritime backgrounds. Some are children of professional fishermen while others have spent time on boats earlier in their lives. However, many students at Cal Maritime do not have previous maritime experience. Nevertheless, many students who stay with the MT program and graduate share the following desires regarding their career choice:

- Not working in an office
- Desire for adventure

- Connection with the environment and nature
- World travel
- Good starting salary with long vacation periods
- Becoming captains and pilots
- Career of action
- Shipboard life

Cal Maritime was the first U.S. maritime to accept women. Women first graduated from Cal Maritime in 1976. Since that time, the percentage of women in the MT program has remained fairly constant at about 10%. In recent years, however, the percentage of women in the program has increased, reaching 14.2% in the fall of 2016. It should be noted that the number of women among the department faculty has increased significantly in recent years, as well. In 2012, for example, there was one woman and 16 men among the department faculty. In 2016, there are six women and 15 men.

Student age diversification has been steadily growing over the last two decades. Traditionally, most of our entering cadets have been traditional post K-12 students, some with an additional year at a junior college. Although that is still the case, since the early 1990s, student demographics and background have been steadily changing. Many students transfer units in from other colleges or have obtained baccalaureate degrees elsewhere before coming to Cal Maritime. The last decade has witnessed many cadets who are transiting to new careers; some have families already or are even grandparents.

One of the anticipated future student demographic changes will be an increasing number of military veterans using GI educational benefits to seek re-education and training. The biggest challenge will be how to account for their educational training already acquired in the military. It seems unreasonable, for example, to require a US Navy boatswain's mate to take Marlinspike Seamanship or courses that focus on ship's deck maintenance. STCW assessments make this challenging, however, due to the nature of our STCW program approval and the limited faculty manpower for individual assessment programs.

#### MT Students' Gender and Ethnicity

	11/12	12/13	13/14	14/15	15/16	16/17
Students	318	311	324	303	309	329
Males	276	282	293	270	273	282
Females	29	29	31	33	36	47
Ethnicity:						
American Indian	1	2	2	1	1	0
Asian	12	10	14	14	19	18
Black	2	0	0	0	1	2
Hispanic	24	25	24	28	32	39
Pacific Islanders	5	3	3	3	2	3
Two +	21	27	29	31	31	37

Unknown	26	18	18	20	20	25
White	227	226	234	206	203	205

### B. Advising

The MT program is the largest on campus with an average student headcount of 316 since Fall 2011. Although we also have the largest number of faculty (21), only the nine faculty who are tenured or tenure-track serve as academic advisors. In Fall 2016, each advisor served an average of 37 students, with some advising up to 42 students. In Spring 2017, Captain Nick Lewis, our MVL – Professional, will be assigned as an advisor, which will reduce the number of advisees per faculty. An assistant professor job search, for a Fall 2017 start, is ongoing, and it is planned that the individual hired will serve as an advisor, as well.

Because of the large numbers of assigned advisees, most MT academic advisors do not require all of their advisees to participate in a formal advising process. Typically, advising is required for all freshmen and those on academic probation. Other students are encouraged to see their advisors if they have questions or issues they'd like to discuss.

### C. Enrollment

	2012-13	2013-14	2014-15	2015-16	2016-17
Enrollment	311	324	303	309	330
Graduates	71	70	69	69	TBD

Due to high demand and limited capacity, the MT program has been declared impacted. The enrollment target for MT is set at 80 students per year. The actual enrollment, however, varies from class to class, due to the uncertainty in the admissions process. In 2015, for example, we welcomed 96 entering freshmen, and another 91 arrived in 2016. Although there is room for growth, both in student demand and capacity, MT is an expensive program to operate due to our low student-faculty ratio and the use of equipment and technology, such as simulators and vessels. In addition, due to the declining number of US flagged ocean-going vessels and the low cost of oil which has caused a slow-down in the offshore oil industry, the employment opportunities for US maritime officers are projected to be flat in the coming years.

Although MT is a high-unit major, with 159 units required for graduation, most students graduate in four years or less. For example, 77% of the first-time freshmen that arrived in August 2010 graduated within four years and 81% of the cohort graduated within six years. The four-year graduation rate would likely be higher if it were possible to offer every MT course in every semester. Because it is not practicable to offer some professional courses more than once a year, students who fail such courses are effectively set back at least a semester, often a whole year. Additionally, because many MT courses have pre-requisite requirements, students cannot simply overload the next semester after failing a course.

Across all majors, Cal Maritime enjoys one of the highest four-year graduation rates in the CSU system (59%) and we have set targets to improve this over the next few years by at least

another 6%.

#### D. Assistance to Students

SEAS: Cal Maritime's Student Engagement and Academic Success (SEAS) Center, located in the Laboratory Building, provides a space for students to study in small groups with access to 24 computers. It also serves as a writing center. Additionally, SEAS provides both formal workshops and one on one tutoring for students who need additional academic help. Workshops cover a wide range of disciplines including calculus, physics, writing skills, statics and dynamics. The center is also responsible for the identification of and assistance to students with learning disabilities and ensures that appropriate accommodations are made to assist the students in their academic courses. A University Advisor was hired in Fall 2016 in an effort to better serve our students, particularly those on academic probation, in order to increase student success and improve graduation rates.

Career Center: The Career Center assists students with job placement and with placement for summer co-op programs and cruises on commercial ships. This center maintains a web based data bank to provide job information to students and alumni as well as to provide resumes to companies looking to employ graduates.

The Career Center also provides workshops such as:

- Resume preparation and business letter writing
- Interviewing and job search strategies
- Dress for success seminars
- Business etiquette
- Career counseling
- Video mock interview
- One-on-one job search counseling

The Career Center sponsors a Job Fair every year that brings over 150 prospective employers to the campus.

#### E. Student Preparedness for Success

The primary evidence that our students are prepared for work in the maritime industry is the continued high employment rate of our graduates. Within three months of graduation, the class 2015 enjoyed a placement rate of 95.31%. The equivalent rate dropped for the class of 2016, but was still very high at 91.23%. It should be noted that five 2016 graduates did not answer the employment survey and were, appropriately, counted among the ranks of the unemployed. As a result, the actual placement may be higher than the stated figure.

## 6. Faculty

### A. Department Faculty

As of December 2016, there are 16 active full-time faculty members in the MT department, nine tenured or tenure track and seven full-time lecturers. In addition, there are three part-time lecturers in the department and two faculty members are participating in the Faculty Early Retirement Program (FERP) and teaching one semester per academic year. The list below summarizes the status of all active MT faculty members. Resumes or CVs for MT faculty members are contained in Appendix D.

<u>Name</u>	<u>Rank</u>	<u>Degree(s)</u>	<u>Started</u>	<u>USCG License</u>	<u>Notes</u>
Tom Allen	MVI III	None	1996	None	FERP
Steve Browne	Professor	BS, MEM	2004	Master Unlimited	Department Chair
Tamara Burbach	MVI II	BS	2015	Master Unlimited	
Darrell Conkling	MVL	BS	2016	Second Mate	
Britt Elliott	MVI IV	BS	1996	1600-Ton Master	
Peter Hayes	Professor	BS, MA, JD	2001	Master Unlimited	
Valerie Holl-McGowan	MVL	BS	2013	Third Mate	
Destiny Knudson	MVL	BS, MS	2013	Third Mate	Part-time
Nicholas Lewis	MVL(P)	BS	2016	Master Unlimited	
Tuuli Messer	Professor	BS, JD	1996	Master Unlimited	
Doug O'Brien	Lecturer	BS	2002	None	Part-time
Ralph Ortolano	MVL	BS, MA, JD	2016	Chief Mate	Fall 2016 only
Scott Powell	Assoc. Prof.	BS, MS	2009	Master Unlimited	
Fred Reiman	MVL	BS, MS	2014	1600-Ton Mate	
Scott Saarheim	MVI II	BS	2000	Third Mate	CFA Chap. Pres.
Bill Schmid	MVI IV	BS	2000	Master Unlimited	
Bob Stewart	Professor	BS, MPA, DPA	1982	Master Unlimited	FERP
Marisa Sutro	MVL	BS	2016	Third Mate	Part-time
Monique Watanabe	MVL	BS	2014	Second Mate	
Dan Weinstock	Professor	BS, MS	1996	Master Unlimited	
Jim West	MVL	AA	2013	1600-Ton Master	

## B. Faculty Work Load (Fall 2016)

	Range	Average
WTU	5-15	13.0
Contact Hours Per Week	7-24	16.7
Class Size	2-51	18.2
Advisees	37-42	39

The MT student-faculty ratio (SFR) is lower than many departments due to regulatory restrictions on the number of students per instructor (e.g. 16 students in a radar lab, 4 students in simulation courses), boat capacity (e.g. 7 students in Ship Handling), and safety reasons (e.g. 10:1 SFR in Ship Operations courses).

Fifteen WTU (Weighted Teaching Units) is considered a full load. Three of those WTUs are given to each tenured and tenure-track faculty member as “indirect units” for advising, service, faculty development, and scholarship. The remaining twelve WTUs are usually assigned as units of direct teaching. Marine Vocational Lecturers (MVLs) do not receive these three indirect units. As a result, MVLs generally teach 15 WTUs per semester but have no requirement for service or scholarship. Many department MVLs participate in service and scholarship, nonetheless.

Often, faculty are assigned "release time" for other responsibilities such as Department Chair, Chair of the Academic Senate, and CFA Chapter President.

Seven MT faculty are on cruise calendar which means they must serve two months in various capacities aboard the training ship each summer in addition to teaching for two semesters on campus during the academic year.

## C. Faculty Scholarship

The tenured and tenure-track faculty of Marine Transportation department are active in scholarship in our field. This is particularly the case for those hired in 2004 and later. Here are examples of faculty scholarly activity in the past two years (with notable older additions):

Tuuli Messer-Bookman (hired 1996)

Books, Articles, Publications

“The Sailings.” *American Practical Navigator-Bowditch*. NGA, forthcoming.

*Maritime Casualties: Causes and Consequences*, Cornell Maritime Press, 2015.

*Close Quarters: A Woman’s Guide to Living and Working in Masculine Environments*, Schiffer Publishing, Ltd., 2011.

*Master’s Handbook on Ship’s Business*, 3<sup>rd</sup> Edition. Cornell Maritime Press, 2001.

Presentations

Invited Speaker – American Merchant Marine Veterans Association Annual Convention, Reno, NV – September 2015.



Panelist/Speaker “Women in the Maritime Trades” San Francisco Maritime National Park – March 2015.

Invited Speaker “Maritime Salvage” OCSC Sailing School – Jan. 2015.

Invited Speaker “Maritime Safety and Casualties” Council of American Master Mariners – March 2014.

Invited Speaker “Maritime Safety and Casualties” OCSC Sailing School – Feb. 2014.

Scott Saarheim [2000]

Books, Articles, Publications

“Assessment of STCW Competencies Aboard a Maritime Academy Training Vessel.” Proceedings of the International Association of Maritime Universities General Assembly, 2016.

Presentations

“The Use of Digital Technology in STCW Assessment.” 2016 National Harbor Safety Conference: 21st Century Waterways: The Changing Tides of Harbor Safety - September 2016.

“Assessment of STCW Competencies Aboard a Maritime Academy Training Vessel.” Research paper presented at the International Association of Maritime Universities General Assembly, Haiphong, Vietnam, 2016.

Steve Browne [2004]

Books, Articles, Publications

“Assessment of STCW Competencies Aboard a Maritime Academy Training Vessel.” Proceedings of the International Association of Maritime Universities General Assembly, Haiphong, Vietnam, 2016.

“The effect of shipboard marine simulation on student success in radar courses.” Proceedings of the International Association of Maritime Universities General Assembly, Constantia, Romania, 2013.

*E-Navigation Course: Research and Development.* Tokyo: IAMU, 2011.

*Nautical Rules of the Road*, Fourth Edition. Cornell Maritime Press, 2006.

*Nautical Rules of the Road*, Fifth Edition. Cornell Maritime Press, forthcoming.

Presentations

Panel Moderator. e-Navigation, Underway Conference, Vallejo, CA, 2014

“The effect of shipboard marine simulation on student success in radar courses.” Research paper presented at the International Association of Maritime Universities General Assembly, Constantia, Romania, 2013.

Grants

“The estuary as a classroom: harnessing interdepartmental synergies, campus location, and facilities to improve student engagement in marine transportation, marine science and chemistry.” Scholarship of Teaching and Learning Grant, 2016.

Sam Pecota [2004]

Books, Articles, Publications

“Chapter 13.” *American Practical Navigator-Bowditch*. NGA, forthcoming.

“Augmented Reality Navigation Displays.” *USCG Proceedings*, Summer 2015.

“Schoolship Training.” *Seaways*, October 2014.

Presentations

“Skysails.” Presentation at Pearls of Power Conference, Vallejo, CA, 2015.

“eNavigation and Overreliance on Technology.” SOCP Conference, Vallejo, CA, February 2015.

Panel member, AIS,e-Navigation & the Marine Highway – Technology & Practice. BlueTech & Blue Economy Summit, San Diego, November 2014.

“E-Navigation Processes”. Presentation at International Symposium Information on Ships, ISIS 2014, Hamburg, Germany, September 2014.

Chairman, e-Navigation Underway Conference, Vallejo, CA April 2014.

Scott Powell [2009]

Books, Articles, Publications

“Chapter 14 - Electronic Charts.” *American Practical Navigator-Bowditch*. NGA, forthcoming.

*Advanced Integrated Navigation: ECDIS*. 1<sup>st</sup> Edition, Cornell Maritime Press, Forthcoming.

"Looking out the Window; Training the navigator for the 21st century waterway." *Proceedings of the Marine Safety and Security Council*, Summer 2015: 58-60.

Presentations

“The Changing Tide of Education in the Digital Age” Presentation. 2016 National Harbor Safety Conference: 21st Century Waterways: The Changing Tides of Harbor Safety- September 2016.

“Teaching with technology: An ECDIS pedagogy study” Research paper presented at the eNavigation North American Underway Conference at SUNY Maritime. 2015

"ECDIS Updating." Presentation. 2015 Deep Draft Industry Day, Sector San Francisco, Coast Guard Island. Alameda. December 2, 2015.

“Creation and Use of Multimedia Using Camtasia Studio.” Presentation to Cal Maritime Faculty Learning Community (FLC) on Educational Technology 2015-16.

Grants

“iPads for the Lecture Classroom.” Maritime Fund Grant, 2015.

“iPads in the Classroom.” Scholarship of Teaching and Learning Grant, 2014.

Tamara Burback [2015]

Books, Articles, Publications

*Master's Handbook on Ship's Business*, 4<sup>th</sup> Edition. Cornell Maritime Press, forthcoming.

### Grants

“The estuary as a classroom: harnessing interdepartmental synergies, campus location, and facilities to improve student engagement in marine transportation, marine science and chemistry.” Scholarship of Teaching and Learning Grant, 2016.

### D. Tenure-track Faculty Changes

The department has experienced a significant number of changes to the tenure-track faculty in the past three years. Since 2014, four tenured faculty have retired and one has become the Interim Academic Dean. In that time, only one new tenure-track faculty joined the department.

- 2014 – Paul Leyda [Professor] retired
- 2015 – Sam Pecota [Professor] appointed Interim Academic Dean
- 2015 – Tamara Burbach [Marine Vocational Instructor] hired
- 2016 – Tom Allen [Marine Vocational Instructor] entered FERP
- 2016 – Peter McGroarty [Marine Vocational Instructor] retired
- 2016 – Robert Stewart [Professor] entered FERP

The department trends during the past five years reveal a steep decline in the tenure-track faculty, both in terms of headcount and tenure-density:

- Tenured and tenure-track faculty (not FERPing), 2012: 13; 2016: 9
- Tenure density (by headcount), 2012: 76.5%; 2016: 47.4%
- Cruise calendar faculty, 2012: 15; 2016: 7
- MT tenured faculty who have left since 2012, 5 (including 2 FERPing)
- MT tenure-track faculty hired since 2012, 1
- Lecturers, 2012: 4; 2016: 10

In the coming years, it is likely that three to five additional tenured faculty will retire. The administration has approved the hiring of one tenure-track assistant professor for Fall 2017.

There is a pressing need to hire more tenure-track faculty in short order. There are several purposes for these hires. First, we need to rebuild the ranks of the cruise calendar faculty. The current numbers are extremely concerning. There are 27 faculty cruise positions. (Some of the positions are paid for by Marine Programs but are filled by department faculty.) In 2016-17, we have just 7 department faculty on the cruise calendar. The remaining positions will be filled by adjuncts, many of whom have never previously taught. The resulting tenure density for cruise, which is a third of our academic program, is 25.9%. As a result of the large number of adjuncts on cruise, much of the time of the few Cal Maritime faculty on cruise is spent training and assisting the adjuncts rather than teaching the cadets. A larger number of tenure-track cruise faculty will restore the quality and integrity of the cruise training program.

Second, the Marine Transportation Department has plans to develop two new programs in the next five years. The new tenure-track faculty will teach some courses in those programs and

will share some of the heavy service load of current tenured and tenure-track faculty. This will provide more margin to current faculty so that they can develop and manage the new programs.

Third, we need more tenure-track faculty to share the service load. Since 2012 the number of tenure-track faculty who are paid for campus service has dropped by 31%. During that time the number of advisees per program advisor has increased by 54% and the STCW workload has grown substantially. In addition, while the requirements for department members to serve on university, senate, and department committees have not significantly grown, the number of eligible faculty has decreased. The resulting increase in service load has negatively impacted the time available for scholarship and professional advancement.

#### E. Assistance to New Faculty

The university conducts a New Faculty Orientation each fall before the beginning of classes. At this orientation, new colleagues are introduced to the Retention, Tenure, and Promotion policy and given a copy of the Faculty Handbook. Within the department, the chair takes primary responsibility for assisting new faculty. Other department faculty members also assist the new person with teaching guidance. In addition, senior department faculty have volunteered to act as mentors to new tenure-track MT faculty. This mentoring process is typically performed on an informal, as-needed basis.

In accordance with the Collective Bargaining Agreement, new probationary (tenure-track) faculty are given an additional 3.0 WTU of release time for their first two years.

#### F. Evaluation of Teaching Effectiveness

Every class taught during the academic year, with the exception of simulation courses, is evaluated using standardized Student Teaching Evaluation forms. These forms give the students the opportunity to rate the course and the instructor on a number of factors using a numerical scale. Students also have the option to provide written comments. Typically, the evaluation forms are completed the last week of classes. The forms are scanned by personnel in the Dean's Office and results are provided to the instructor and the department chair. Numerical ratings are averaged and compared to the department and institution mean. Any student written comments are also provided. A different, department generated form is used to evaluate simulation courses. The department chair and the Dean review the student evaluations of each instructor and, when deemed necessary, may choose to discuss the results with the faculty member with the goal of improving performance in future semesters. Student evaluations are also used for the Retention, Tenure and Promotion process and lecturer evaluations.

No student evaluation of teaching is conducted during the summer training cruises. The department should consider developing and administering appropriate evaluation instruments for this portion of the curriculum.

Faculty teaching effectiveness is also assessed using peer evaluations. Faculty on the tenure-track are observed and evaluated by department colleagues and the chair at several points in the RTP process. Lecturers are evaluated during the annual lecturer evaluations. Faculty are encouraged to invite colleagues to sit in on their classes to provide formative feedback.

#### G. Non-Instructional Responsibilities

Tenured and probationary faculty and Marine Vocational Lecturer (Professional) faculty receive 3.0 WTU per semester for campus service, advising, and scholarship. These faculty members are assigned student advisees and are provided with opportunities to volunteer for department and campus service. Committee assignments are made in a variety of ways. In some cases, the opening is announced by email or in a meeting and the first person to volunteer is appointed. In others, the department chair will decide who is best suited to serve in the role and will approach the individual directly to encourage participation. In such cases, the rest of the department faculty are given the opportunity to raise any objections. For other committees, such as department RTP committees, a formal election process is used to determine the membership.

MT faculty are consistently elected to leadership positions on campus, such as CFA chapter president, Academic Senate Executive Committee member, campus representative to the Academic Senate of the CSU, and chairs of Senate committees. MT faculty members regularly participate in student mentorship, corps functions, and conduct adjudication.

### 7. Program Resources

#### A. Staff Resources

One Academic Support Coordinator serves both the MT department and the Engineering Technology department. When that position is filled, that individual provides sufficient service to meet the institutional and administrative requirements of the program. Leona Herbert retired in 2015, after serving in that role for several years. Since that time, the position was empty for several weeks, performed by a temporary employee for three months and filled by a permanent hire, Robyn Christopher, for six months. The position was again open for two months at the beginning of the fall semester of 2016 until it could be filled by Ms. Lindsay Long who started November 1st. The lengthy periods when the position was empty and frequent turnover of personnel in this vital position has been challenging for the department, particularly in the area of STCW record keeping and due to the added administrative tasks that have fallen upon the department chair. The department also receives some support from Pat Harper and Darian Horne in the Dean's office.

#### B. Operating Budget

The Provost and Academic Dean determine the operating budget for the MT Department after some consultation with the department chair. In recent years, the budget has been insufficient for faculty salaries, primarily due to incorrect allocation of funds for the salaries of cruise adjunct faculty. As a result, the department has been significantly over budget for

several years. This will be the case in 2016-2017, as well, unless the budget is amended midyear.

The remaining budget is sufficient for the department's current needs, though individual budget categories, such as faculty uniforms and USCG licensing fees, are underfunded. Typically, unspent funds from other budget items are used to cover those overages.

In future years, the budget will need to be augmented in order to support the development and implementation of new programs, such as the proposed master's degree and the unlicensed Maritime Management degree.

To date, the department has not been directly involved in external fundraising.

### C. Equipment Resources

The simulation facilities, both in the Simulation Center and onboard the training ship, badly need to be updated. The simulation update should also include a Dynamic Positioning simulator. The total cost of such an update would likely cost more than \$1 million.

### D. Library, Media, and Computing Resources

Library: Cal Maritime's library facilitates student success by offering library instruction and collections that address Cal Maritime's unique curriculum and develop savvy information users and life-long learners.

The library plays a key role as a place for quiet study, group work, research, and productivity. Its building, with views of the Carquinez Strait and San Pablo Bay, offers a variety of study spaces, with mobile furnishings. It is equipped with many tools to facilitate research and study, including circulating laptops, cameras, and calculators.

Librarians collaborate with faculty to provide discipline-specific information literacy instruction in targeted courses within the curriculum. Librarians also assist students individually with research projects, either by appointment or on a drop-in basis.

The library's website, <http://library.csum.edu>, is the portal for discovering the resources available to the students. The library's physical collection consists of approximately 50,000 items, and many popular, scholarly, and trade and industry journals, magazines, and newspapers, including materials specific to the maritime industry. The library's online information resources consist of over 50 research databases with access to thousands of full-text journal articles and eBooks. Some of this collection is located on the ship during the summer to support technical curriculum and recreational reading during the cruise program.

Students, faculty, and staff may borrow books and media from a shared collection of over 10 million titles through the library's participation in LINK+, a resource sharing service made up of public and university libraries in California and Nevada. LINK+ allows users to

independently discover and request materials not available at the Cal Maritime library. These materials are usually delivered in two to four business days.

Materials that are not available through LINK+, journal articles, and other materials are delivered via the OCLC interlibrary loan service.

Computer Centers: There are three computer centers on campus with full connections to the Internet and the internal network. These centers are available for class use, such as the AutoCAD portion of the Graphics class. These centers are also available to the students and faculty when not in classroom use. All labs on campus are equipped with computers to provide the students the ability to work on data calculation during the lab period. Additional computers are available in the library and the SEAS Center. The computer facilities are sufficient for the department needs.

Facilities: Cal Maritime's vessels are an integral part of the MT program's training. Many department courses are taught using the ship and small vessels. The responsibility for maintenance and repair of Cal Maritime's training ship and small craft resides with the Director of Marine Programs who also serves as the Captain of the Training Ship (COTS). Other than training consumables used on cruise, the MT Department budget does not include maintenance and repair of the training vessels. Regardless, the training ship and small craft need to be continuously funded for repair, dry dockings, and fuel.

Additionally, capital improvements to and modernization of Cal Maritime's vessels are needed to ensure that these training platforms do not become prematurely obsolete and therefore of lesser value to the training of our future mariners. The MT department is an active participant in the discussions regarding improvements to Cal Maritime's training fleet.

The MT program utilizes Cal Maritime's swimming pool to conduct vital training in marine survival. The current facility has proved adequate over the years, but we need ongoing budgetary support for equipment used in this training. Liferafts and immersion suits have to be replaced as they are worn out. Presently, there is no formal budget support for this equipment.

## **8. Recommendations of the Department as a Result of its Self-Study**

The following is a list of specific recommendations generated from across all areas of this review:

Faculty: Rebuild the department tenure density in response to past and projected retirements. The department needs to maintain 12 or more tenured and/or tenure track, cruise calendar positions to deliver adequately its academic programs. Currently, the department has nine tenured and tenure track faculty with only seven on cruise calendar. Accordingly, the department should hire at least three new tenure track faculty in the coming years. Additional faculty hires will be necessary to replace any faculty that retire, as well.

Since 2012, the tenure density in the department has decreased from 76.5% to 47.4%. The

current tenure density is significantly below the 75% level recommended by the California Legislature (ACR 73).

Marine Transportation is a specialized field with high salaries. As a result, recruiting and retaining qualified faculty is difficult for the department. In order to do so, the department recommends that faculty starting salaries be increased and that the Marine Vocational Instructor track be reopened.

In addition, a policy should be developed concerning the conversion from the MVI to the professor track. This will provide encouragement to MVIs to pursue graduate degrees, further enhancing their ability to contribute to the scholarly activities of the department.

Academic Advising Training and Manual: The MT department should produce an Academic Advising Manual, including Frequently Asked Questions, as a resource for advising guidelines and information. In addition, formal training should be conducted for new and current Academic Advisors in the department.

Assessment Plan: The department should complete its revision of a formal internal assessment review program, including the adoption of any changes and needed modifications for emerging new assessment criteria or new elements of the program to include.

STCW Program: The department should complete its revision of the STCW assessment program.

Simulation Program Review: The department should complete its review of the simulation courses and ensure that the scenarios and course material are up to date and appropriate for meeting the learning outcomes of the courses and the program.

Simulation Equipment Refresh: The department should work with the Director of Simulation to update the simulation equipment in the Simulation Center and aboard the training ship. The Navigation Lab on the ship should include a Class A simulator with at least 225 degrees of visibility and surround sound. A Dynamic Positioning (DP) simulator should be obtained and installed.

Master's Program: The department should develop a master's degree with a license option to attract the large number of potential students who have previously completed bachelor degrees.

Maritime Management Program: The department should develop a non-license bachelor's program in Maritime Management.

School of MT/IBL/NS: The department should work closely with the International Business and Logistics and Naval Science departments to ensure a smooth transition to the new school.



## **9. Recommendations for Improving the Review Process**

The Marine Transportation department makes the following recommendations for improving the review process when the time comes for the next review:

- Conduct the next review within the WASC recommended timeframe.
- The next review need not re-write this entire format from scratch, but may, instead, update this current review to report on areas that have changed during the intervening period. Thus, it need only report on the status of the assessment of program objectives and student learning outcomes and develop new strategies necessary to respond to the conditions present as seen through the lens of the next review period.
- With this thorough review as a base, the next review should report mainly on the progress made on the recommendations contained herein.

## Appendix A – Assessment Plan

### Marine Transportation Program Learning Outcomes and Assessment

The learning outcomes for the Marine Transportation department were developed by the faculty of the department, utilizing previous learning outcomes and objectives, and existing institution wide learning outcomes. The outcomes were revised and approved by the department in August 2016, after which the corresponding assessment plan was developed and implemented. The plan is in its preliminary stages, and will be modified as necessary. Developing ideas are in *italic*.

The Marine Transportation department's PLO's are:

PLO1- Graduates will complete all STCW competencies, pass all USCG licensing examinations, and demonstrate practical application of the skills required for these achievements.

PLO2- Graduates will demonstrate expertise in the concepts, policy, and technologies of the maritime transportation field both at sea and on land.

PLO3- Graduates will apply current nautical theory to emerging technologies, systems, and structures, and demonstrate a commitment to continuous improvement and lifelong learning in the maritime industry or otherwise.

PLO4- Graduates will demonstrate the ability to work effectively in professional teams as an influential member or leader, set achievable goals, and accomplish them with quality and timeliness

PLO5- Graduates will demonstrate effective communication skills and the ability to put together compelling arguments in technical environments through speaking, writing, and presenting.

PLO6- Graduates will develop a respect for professional, ethical, and social responsibilities and identify current national and global impacts of the maritime industry.

PLO7- Graduates will demonstrate the ability to analyze projects, objectively evaluate numerical data, and understand the role of personal and environmental safety in the workplace.

Assessment for each of the PLO's will be conducted in four-year cycles. The start of the cycles for the outcomes were staggered so that assessment of some outcomes will begin in years 2, 3, or 4.

Year 1: Consensus on outcome

Year 2: Collect data artifacts

Year 3: Deliver report recommendations

Year 4: Review report

Each PLO has specific performance metrics and assessment methods. Evidence and findings are collected in year two and reported on in year three of the four year cycle. Changes and rationale

are developed in year four and implemented for outcome consensus in year one. This revolving cycle will support continual improvement in the assessment process and in the department's ability to fulfill its established learning outcomes.

**PLO1- Graduates will complete all STCW competencies, pass all USCG licensing examinations, and demonstrate practical application of the skills required for these achievements.**

Status of four-year cycle:

PLO1 is in year 3 of 4, delivery of report recommendations. Report will be delivered by June 2017.

Performance Metrics to meet this outcome:

- 60% of students passed all USCG licensing examinations on their first attempt (7/7).
- 80% of students passed at least 5 out of 7 USCG licensing examinations on their first attempt, requiring two or fewer retests.
- 100% of the graduating class passed their STCW assessments to be eligible their licenses
- 100% of the graduating class has achieved adequate sea time to be eligible for their license.

Learning Activities that Support Development of the Outcome:

- Students take a license preparation course where all examination topics are reviewed. This course is a culmination of previous major courses.
- Courses throughout the program incorporate STCW assessments into their curriculum. Successful STCW assessments will serve to demonstrate the skills required for practical application.
- Sea time is achieved through summer cruises and various courses throughout the program.

Assessment Methods that track this Outcome:

- Results from USCG license examinations
- STCW assessment data, tracked by the STCW Coordinator
- Sea time, tracked by the department

Assessment Evidence and Findings:

The past ten years (2006-2016) of data indicate that 56.5% of students eligible to take the USCG license examinations passed them all on the first attempt. This is slightly below the goal of 60%. The past two years, however, the pass rate has exceeded the 60% threshold. In 2016, 93% of students passed after two retests. This analysis meets the performance metric for achievement of this outcome.

The USCG is planning to change the license examination in the near future, so pass rates may fluctuate in the coming years. The department will strive to achieve and maintain this goal despite the examination changes.

The STCW assessment is plan is evolving, but all current students who are on track to graduate

will have all STCW competencies completed by the time they complete the program. In addition, all graduating students will have adequate sea time to be eligible for a USCG license. It should be noted that federal regulations prohibit the awarding of the degree unless the student has passed the license exam, completed all STCW assessments, and logged the minimum number of required sea days.

Changes and Rationale:

Following the review of this assessment data, there are no proposed changes to PLO1, the performance metric, assessment method, or corresponding curriculum

**PLO2- Graduates will demonstrate expertise in the concepts, policy, and technologies of the maritime transportation field both at sea and on land.**

Status of four-year cycle:

PLO2 is in year 2 of 4, collection of data artifacts. Report will be delivered by June 2018.

Performance Metrics to meet this outcome:

- 100% of the graduating class has completed their STCW assessments to be eligible their licenses.
- 95% graduate job placement
- *Commercial cruise letters of recommendation?*

*Future opportunity for use as a performance metric:*

- Students demonstrate mastery level expertise in senior level major courses: Watchstanding Simulation, Operational Command at Sea, Port and Terminal Management, Admiralty Law and/or Advanced Maritime Topics
- 60% of students will pass USCG licensing examinations on their first attempt (7/7) and 90% of students will pass USCG licensing examinations on their first attempt with two retests.

Learning Activities that Support Development of the Outcome:

- Courses throughout the program incorporate STCW assessments into their curriculum. Successful STCW assessments will serve to demonstrate expertise in the concepts, policy, and technologies of the maritime transportation field.
- Projects (*specific project identification is on track for July 2017*) in Watchstanding Simulation, Operational Command at Sea, Port and Terminal Management, and/or Advanced Maritime Topics

Assessment Methods that track this Outcome:

- STCW assessment data, tracked by the STCW Coordinator
- Job placement as tracked Career Services
- Project in Watchstanding Simulation, Operational Command at Sea, Port and Terminal Management, Admiralty Law and/or Advanced Maritime Topics, assessed via rubric (*specific rubric TBD by June 2017*)
- Results from USCG license examinations

Assessment Evidence and Findings:

STCW assessment is in the process of changing, but all current students who are on track to graduate are on track to have all STCW competencies completed.

Job placement was 95.31% in 2015. More data is pending to determine if the trend meets the outcome performance metric of 95% job placement.

The assessment plan for this outcome is in year 2 of 4. It is too early to develop complete evidence and findings at this time.

Changes and Rationale:

The assessment plan for this outcome is in year 2 of 4. It is too early to evaluate the findings and recommend changes at this time.

**PLO3- Graduates will apply current nautical theory to emerging technologies, systems, and structures, and demonstrate a commitment to continuous improvement and lifelong learning in the maritime industry or otherwise.**

Status of four-year cycle:

PLO3 is in year 3 of 4, delivery of report recommendations. Report will be delivered by June 2017

Performance Metrics to meet this outcome:

- 100% of the graduating class has completed their STCW assessments to be eligible their licenses
- 95% graduate job placement
- 50% of alumni achieve Graduate degrees or management level licenses (Chief Mate or Master)
- Students demonstrate interest in continuous improvement and lifelong learning in senior level major courses: Operational Command at Sea, Port and Terminal Management, and/or Advanced Maritime Topics
- *Lifelong Learning elective may be incorporated in this assessment*
- *Surveys from cruise 200 companies may be incorporated in this assessment*

Learning Activities that Support Development of the Outcome:

- Courses throughout the program incorporate STCW assessments into their curriculum. Successful STCW assessments will serve to demonstrate the application of current nautical theory to emerging technologies, systems, and structures.
- Projects (*specific project identification is on track for Jan 2017*) in Operational Command at Sea, Port and Terminal Management, and/or Advanced Maritime Topics

Assessment Methods that track this Outcome:

- STCW assessment data, tracked by the STCW Coordinator
- Job placement as tracked Career Services
- License upgrade/graduate degree's tracked by *TBD, 2017*

- Project in Operational Command at Sea, Port and Terminal Management, and/or Advanced Maritime Topics, assessed via rubric (*specific rubric TBD by June 2017*)
- Lifelong learning elective project may be analyzed through Association of American Colleges and Universities VALUE rubric with modifications
- Surveys from cruise 200 companies or from companies that attend the career fairs may be used

Assessment Evidence and Findings:

STCW assessment is in the process of changing, but all current students who are on track to graduate are on track to have all STCW competencies completed. All students who are on track to graduate are on track to have adequate sea time to be eligible for a USCG license.

Job placement was 95.31% in 2015. More data is pending to determine if the trend meets the outcome performance metric of 95% job placement.

The assessment plan for this outcome is in year 3 of 4. It is too early to develop adequate evidence and findings at this time.

Changes and Rationale:

The assessment plan for this outcome is in year 3 of 4. Evidence and findings need to be available before change recommendations can be made.

**PLO4- Graduates will demonstrate the ability to work effectively in professional teams as an influential member or leader, set achievable goals, and accomplish them with quality and timeliness**

Status of four-year cycle:

PLO4 is in year 1 of 4, consensus on outcome. Report will be delivered by June 2019.

Performance Metrics to meet this outcome:

- Students demonstrate bridge team management skills
- Students demonstrate teamwork and leadership on deck projects
- Students demonstrate project time management

Learning Activities that Support Development of the Outcome:

- Bridge team management is introduced in Introduction to Bridge Simulation and mastered in Watchstanding Simulation
- Ship Operations and Training Cruises teach teamwork, leadership, and time management
- The Corps of Cadets and the Edwards Leadership Program teaches leadership and teamwork

Assessment Methods that track this Outcome:

- Rubric (*to be identified by July 2017*) in Introduction to Bridge Simulation and in Watchstanding Simulation

- Rubric (*to be identified by July 2017*) in Ship Operations and/or Training Cruises
- Identify system to collect leadership and teamwork data from the Corps of Cadets/Edwards Leadership Program (July 2017)

Assessment Evidence and Findings:

The assessment plan for this outcome is in year 1 of 4. It is too early to develop adequate evidence and findings at this time.

Changes and Rationale:

Assessment plan for this outcome is in year 1 of 4. Evidence and findings need to be available before change recommendations.

**PLO5- Graduates will demonstrate effective communication skills and the ability to put together compelling arguments in technical environments through speaking, writing, and presenting.**

Status of four-year cycle:

PLO5 is in year 1 of 4, consensus on outcome. Report will be delivered by June 2019.

Performance Metrics to meet this outcome:

- Graduates will demonstrate effective oral communication
- Graduates will demonstrate effective written communication

Learning Activities that Support Development of the Outcome:

- Written communication is reinforced in English Composition and mastered in Advanced Writing
- Oral communication is developed in Speech Communication
- Communication is taught throughout the program in tandem with leadership, teamwork, project management, and officership

Assessment Methods that track this Outcome:

- Oral communication is demonstrated in Watchstanding Simulation and will be assessed by rubric (*TBD June 2017*)
- Written communication is demonstrated in Operational Command at Sea, Port and Terminal Management, and/or Advanced Maritime Topics, assessed via rubric (*specific rubric TBD by June 2017*)
- Communication may also be assessed in Advanced Writing (EGL 300) and Speech (EGL 110)

Assessment Evidence and Findings:

Assessment plan for this outcome is in year 1 of 4. It is too early to develop adequate evidence and findings at this time.

Changes and Rationale:

Assessment plan for this outcome is in year 1 of 4. Evidence and findings need to be available

before change recommendations

**PLO6- Graduates will develop a respect for professional, ethical, and social responsibilities and identify current national and global impacts of the maritime industry.**

Status of four-year cycle:

PLO5 is in year 1 of 4, review report. Next report will be delivered by June 2020.

Performance Metrics to meet this outcome:

- Students will demonstrate ethical awareness
- Students will demonstrate global learning

Learning Activities that Support Development of the Outcome:

- Ethical awareness is discussed in courses throughout the program
- Awareness of cultural differences is gained throughout the program, especially during the summer cruises
- *Identification of supporting activities ongoing*

Assessment Methods that track this Outcome:

- Institution Wide Learning Outcome (IWLO) Assessment was utilized for this first assessment year.

Assessment Evidence and Findings:

IWLO findings were not useable, as they did not identify Marine Transportation students from other majors. There is no clear evidence that MT students achieved this outcome.

Changes and Rationale:

Assessment plan for this outcome is in year 4 of 4, although there was no departmental level assessment completed. The assessment method will be adjusted. The method will be identified before the end of year 1 of the four-year cycle, i.e. before August 2018

**PLO7- Graduates will demonstrate the ability to analyze projects, objectively evaluate numerical data, and understand the role of personal and environmental safety in the workplace**

Status of four-year cycle:

PLO5 is in year 2 of 4, collection of data artifacts. Report will be delivered by June 2018.

Performance Metrics to meet this outcome:

- Graduates will demonstrate the ability to think critically
- Graduates will solve numerical problems relevant to their field
- Graduates will apply job personal and environmental safety skills



Learning Activities that Support Development of the Outcome:

- Critical thinking skills are imbedded throughout the program and in the STCW competencies.
- Relevant numerical problem solving is introduced in Navigation I, reinforced in Ship Stability and Advanced Navigation, and Mastered in Celestial Navigation and the USCG License Examination
- Application of safety is a focus for courses throughout the program. Introduction is in Industrial Equipment and Safety, reinforcement is in Ship Operations I, Cruise 100, and Ship Operations II, and mastery is in Cruise 200 and 300.

Assessment Methods that track this Outcome:

- STCW assessment data, tracked by the STCW assessor
- Modified VALUE Critical Thinking Rubric will be used to assess numerical problem solving in Navigation I, Ship Stability, Advanced Navigation, and/or Celestial Navigation
- Results from USCG License Examinations
- Safety is assessed based on samples of Job Hazard Analysis reports from Ship Operations and Cruise 300 utilizing a rubric developed by the department assessment coordinator

Assessment Evidence and Findings:

Assessment plan for this outcome is in year 2 of 4. Artifacts are being collected and because year 1 of 4 was skipped, rubrics are also being finalized. The data is expected to be limited, but will serve as a benchmark for improvement for the next cycle.

Changes and Rationale:

Assessment plan for this outcome is in year 2 of 4. Evidence and findings need to be available before change recommendations

**Future goals for the PLO's and assessment in the department**

Future development will be driven by analysis of the results of the performance assessment. The development of future outcomes, performance metrics, and assessment methods may include input from employers, students, alumni, and an assessment advisory committee. The assessments may be compared with peer assessments such as SUNY or Texas A&M.

Student learning will be improved through changes in curriculum and coursework. Assessment will ensure that any curriculum changes are successful in fulfilling their goals. The assessment of the departmental outcomes will be continually adapting and improving, to ensure that weaknesses are identified, and the process is improved. The learning activities that support development of each outcome will be modified as introduction, reinforcement, and mastery levels of each outcome are identified and assessed.

**Appendix B – STCW Sample Table (excerpt) and Control Sheet**

Competence	Knowledge, Understanding, Proficiency	Assessment No.	Task	Course	Method of Demonstrating Competence	Criteria for Evaluating Competence	Curriculum Location, Selected Method of Proficiency Assessment
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Function: Navigation at the operational level

Plan and conduct a passage and determine position (1)	Celestial navigation	1.1.A (OICNW-1-1A)	1.1.A - Adjust a sextant	CRU 300	Examination and assessment of evidence obtained from one or more of the following:  .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training  using chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror,	The information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified  The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions  The position is determined within the limits of acceptable instrument/system errors	CRU 300 • Celestial Program
		1.1.B (OICNW-1-1B)	1.1.B - Measure the altitude of the sun	CRU 300			
		1.1.C (OICNW-1-1C)	1.1.C - Measure the altitude of at least 3 stars	CRU 300			
		1.1.D (OICNW-1-1D)	1.1.D - Measure the altitude of the sun at meridian passage (LAN)	CRU 300			
		1.1.E (OICNW-1-1E)	1.1.E - Celestial running fix	CRU 300			
		1.1.F (OICNW-1-1F)	1.1.F - Plot star fix	CRU 300			
	<i>Terrestrial and coastal navigation</i>	1.2.A (OICNW-1-2A)	1.2.A – Position fix by two bearings	CRU 300			
		1.2.B (OICNW-1-2D)	1.2.B - Plot DR position	CRU 300			

<p>ship's position by use of:</p> <p>.1 landmarks</p> <p>.2 aids to navigation, including lighthouses, beacons and buoys</p> <p>.3 dead reckoning, taking into account winds, tides, currents and estimated speed (1-2)</p> <p>Thorough knowledge of and ability to use nautical charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information (1-3)</p> <p><i>Electronic systems of</i></p>	1.2.C (OICNW-1-2E)	1.2.C - Determine the course to steer	CRU 300	<p>electronic navigation equipment, echo sounding equipment, compass</p> <p>The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals</p> <p>Calculations and measurements of navigational information are accurate.</p> <p>The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in accordance with the latest information available</p> <p>Performance checks and tests to navigation systems comply with manufacturer's recommendations</p>	<ul style="list-style-type: none"> <li>• Bridge watch</li> </ul>	
	1.3.A (OICNW-1-3A)	1.3.A - Correction of charts and publications	CRU 300			
	1.3.B (OICNW-1-3B)	1.3.B - Chart selection	CRU 300			
	1.3.C (OICNW-1-3C)	1.3.C – Route planning	CRU 300			
	1.4.A (OICNW-1-2B)	1.4.A – Position fix by two ranges	DL 325L			
	1.4.B (OICNW-1-2C)	1.4.B – Position fix by tangents to identified objects	DL 325L			
	1.4.C (OICNW-1-4A)	1.4.C - Position fix by GPS	CRU 300			
	1.4.D (OICNW-1-4B)	1.4.D - Use of GPS position save function	CRU 300			
	1.5.A (OICNW-1-4D)	1.5.A - Use of echo sounder	CRU 300			
	1.6.A	1.6.A – Magnetic variation	NAU 102			
	1.6.B	1.6.B – Correct for true heading	NAU 102			
						<ul style="list-style-type: none"> <li>• Day Navigator watch</li> <li>• Radar simulation</li> <li>• Bridge watch</li> <li>• Day Navigator watch</li> <li>• Written exams</li> </ul>

	<p><i>position fixing and navigation</i></p> <p>Ability to determine the ship's position by use of electronic navigational aids (1-4)</p> <p><i>Echo sounders</i></p> <p>Ability to operate the equipment and apply the information correctly (1-5)</p> <p><i>Compass - magnetic and gyro</i></p> <p>Knowledge of the principles of magnetic and gyro compasses (1-6)</p> <p>Ability to determine errors of the magnetic and gyro</p>	<p>1.6.C</p> <p>1.6.D</p> <p>1.7.A (OICNW-1-5A)</p> <p>1.7.B (OICNW-1-5B)</p> <p>1.7.C (OICNW-1-5C)</p> <p>1.7.D (OICNW-1-5D)</p> <p>1.7.E (OICNW-1-5E)</p> <p>1.7.F (OICNW-1-5F)</p> <p>1.8.A (OICNW-1-6A)</p>	<p>1.6.C – Compass deviation</p> <p>1.6.D – Magnetic compass correction</p> <p>1.7.A - Determine gyrocompass error by bearing of range</p> <p>1.7.B - Determine magnetic compass error</p> <p>1.7.C - Determine magnetic compass deviation</p> <p>1.7.D - Determine course to steer by magnetic compass</p> <p>1.7.E - Position fix by magnetic compass bearings</p> <p>1.7.F - Azimuth of the sun</p> <p>1.8.A - Steering gear test</p>	<p>NAU 102</p> <p>NAU 102</p> <p>CRU 300</p> <p>CRU 300</p> <p>CRU 300</p> <p>CRU 300</p> <p>CRU 300</p> <p>CRU 300</p> <p>DL 420</p>		<p>and good navigational practice</p> <p>Errors in magnetic and gyro compasses are determined and correctly applied to courses and bearings</p>	<p>CRU 300</p> <ul style="list-style-type: none"> <li>• Simulation</li> </ul> <p>CRU 300</p> <ul style="list-style-type: none"> <li>• Celestial Program</li> </ul> <p>DL 420</p> <ul style="list-style-type: none"> <li>• Bridge simulation</li> </ul> <p>CRU 300</p> <ul style="list-style-type: none"> <li>• Bridge watch</li> </ul> <p>CRU 300</p> <ul style="list-style-type: none"> <li>• Meteorology watch</li> </ul> <p>NAU 330</p> <ul style="list-style-type: none"> <li>• Written exam</li> </ul>
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	compasses, using celestial and terrestrial means, and to allow for such errors (1-7)	1.8.B (OICNW-1-6B)	1.8.B - Set weather controls	CRU 300	The selection of the mode of steering is the most suitable for the prevailing weather, sea and traffic conditions and intended maneuvers	CRU 300 <ul style="list-style-type: none"> <li>Meteorology watch</li> </ul>
	<i>Steering control system</i>	1.9.A (OICNW-1-7A)	1.9.A - Read barometric pressure	CRU 300		
		1.9.B (OICNW-1-7B)	1.9.B - Determine the wind speed and direction	CRU 300		
		1.10.A	1.10.A – Characteristics of a cold front	NAU 330	Measurements and observations of weather conditions are accurate and appropriate to the passage	
	1.10.B	1.10.B – Characteristics of a warm front	NAU 330			
	Knowledge of steering control systems, operational procedures and changeover from manual to automatic control and vice-versa. Adjustment of controls for optimum performance (1-8)	1.10.C	1.10.C – Characteristics of an occluded front	NAU 330	Meteorological information is correctly interpreted and applied	
		1.10.D	1.10.D – Characteristics of a low pressure area	NAU 330		
		1.10.E	1.10.E – Characteristics of a high pressure area	NAU 330		
		1.10.F	1.10.F – Characteristics and expected locations of weather systems	NAU 330		
	<i>Meteorology</i>					
Ability to use and interpret information obtained from shipborne meteorological instruments (1-9)						

	<p>Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems (1-10)</p> <p>Ability to apply the meteorological information available (1-10)</p>	<p>1.10.G (OICNW-1-7C)</p>	<p>1.10.G - Determine expected weather conditions</p>	<p>CRU 300</p>			
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**CALIFORNIA MARITIME ACADEMY**  
**TABLE A-II/1**  
**OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

ASSESSMENT NO: OICNW 1.3.A

FUNCTION: Navigation at the operational level

STCW COMPETENCE: Plan and conduct a passage and determine position

KNOWLEDGE, UNDERSTANDING and PROFICIENCY: Thorough knowledge of and ability to use navigational charts, and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information

TASK NO./NAME: 1.3.A - Correction of charts and publications

PERFORMANCE CONDITION: On a ship, or in a navigational laboratory, given notices to mariners and uncorrected charts, and publications,

PERFORMANCE BEHAVIOR: the candidate makes not less than five chart corrections and three publications corrections.

PERFORMANCE STANDARD:

The candidate:

1. Identifies charts and publications needing correction;
2. Correctly makes corrections to the affected charts and publications;
3. Records all chart corrections on the chart and in the chart-correction record or the chart correction spreadsheet; and
4. Records correction to all publications, on the correction page of the publication, and on the publication correction card or the publication correction spreadsheet.

COURSE: CRU 300

REFERENCES: NVIC 12-14

VARIANCES: None

## Appendix C – Marine Transportation Curriculum Sheet

Total Units: 159		CLASS OF 2020 MARINE TRANSPORTATION MAJOR CURRICULUM		REVISED 7/13/16 Subject to Change
Writing Proficiency Requirement: All Junior students must demonstrate upper division writing competency as a graduation requirement. This may be fulfilled by passing either the Graduation Writing Exam or EGL 300 Adv. Writing.				
<b>FALL 2016</b>				
CCNT 100	Introduction to Computers	2.0		
DL 105	Marine Survival	1.0		
DL 105L	Marine Survival Lab	1.0		
DL 105X	USCG Lifeguard's Exam	0.0		
DL 109	Industrial Equipment and Safety	1.0		
DL 115	Math/Physics	1.0		
MTH 100	College Algebra and Trigonometry	4.0		
NAU 103	Introduction to Marine Transportation	3.0		
NAU 104	VPDSD	1.0		
NAU 105	Ship Structure	2.0		
NAU 106	Merchant Mariner Fundamentals	2.0		
PE 101	Swim Competency Exam	0.0		
PE 102	Beginning/Intermediate Swimming	0.5		
<b>Total</b>		<b>18.0</b>		
<b>FALL 2017</b>				
DL 111	Ship Operations II	1.0		
DL 325	Radar/ARPA	2.0		
DL 325L	Radar/ARPA Lab	2.0		
ELEC 20	Critical Thinking Elective	3.0		
NAU 102	Navigation I	4.0		
NAU 102L	Navigation I Lab	2.0		
NAU 305	Rules of the Road	2.0		
PHY 100	Physics I	3.0		
PHY 100L	Physics I Lab	1.0		
<b>Total</b>		<b>14.0</b>	<b>OR 13.0</b>	
<b>FALL 2018</b>				
DL 301	Navigation Plotting Lab	1.0		
DL 310	Marine Supervisory Lab	1.0		
EGL 110	Speech Communication	3.0		
EGL 300	Advanced Writing	(3.0)		
ELEC 21	Humanities Elective (Lower Div)	3.0		
FF 200	Basic/Advanced Marine Firefighting	0.0		
NAU 302	Advanced Navigation	3.0		
NAU 302L	Advanced Navigation Lab	0.0		
NAU 320	Tank Vessel Operations	3.0		
NAU 330	Meteorology	3.0		
NAU 335	ECDIS	2.0		
NAU 335L	ECDIS Lab	1.0		
<b>Total</b>		<b>16.0</b>	<b>OR 17.0</b>	
<b>FALL 2019</b>				
DL 305	Tug and Barge	1.0		
DL 405	Shipboard Medical	1.0		
DL 405L	Shipboard Medical Lab	1.0		
DL 410	Ship Handling	1.0		
DL 420	Watchstanding Simulation	2.0		
ELEC 8	American Institutions Elective	3.0		
ELEC 22	Humanities Elective (Upper Div)	3.0		
HNM 400	Etics	3.0		
NAU 108	Operational Command at Sea	2.0		
NAU 410	License Seminar	0.0		
NAU 410L	License Seminar Lab	0.0		
<b>Total</b>		<b>16.0</b>	<b>OR 13.0</b>	
<b>FALL 2020</b>				
DL 125	Graphics	1.0		
DL 305	Tug and Barge	1.0		
DL 405	Shipboard Medical	1.0		
DL 405L	Shipboard Medical Lab	1.0		
DL 410	Ship Handling	1.0		
ELEC 22	Humanities Elective (Upper Div)	3.0		
LAW 315	Administrative Law	3.0		
MGT 310	Port and Terminal Management	3.0		
NAU 415	Transportation Security	3.0		
NAU 400	Advanced Maritime Topics	3.0		
NAU 420	Maritime Casualty Seminar	3.0		
NAU 430	Liquefied Gas Cargos	2.0		
NAU 430L	Liquefied Gas Cargos Lab	1.0		
<b>Total</b>		<b>16.0</b>	<b>OR 13.0</b>	
<b>SPRING 2017</b>				
CHE 105	Introductory Chemistry	3.0		
CHE 105L	Introductory Chemistry Lab	1.0		
DL 100	Small Craft Operations	1.0		
DL 110	Ship Operations I	1.0		
DL 120	Cargo Operations	1.0		
ECO 100	Macroeconomics	3.0		
EGL 100	English Composition	3.0		
ELEC 31	Social Science Elective (Lower Div)	3.0		
NAU 110	Semanship	3.0		
<b>Total</b>		<b>19.0</b>		
<b>SPRING 2018</b>				
DL 240	GNADSS	2.0		
DL 240L	GNADSS Lab	1.0		
DL 325	Radar/ARPA	2.0		
DL 325L	Radar/ARPA Lab	2.0		
ELEC 9	American Institutions Elective	3.0		
NAU 205	Ship Stability	3.0		
NAU 310	Electricity/Electronics	3.0		
NAU 310L	Electricity/Electronics Lab	1.0		
<b>Total</b>		<b>13.0</b>	<b>OR 17.0</b>	
<b>SPRING 2019</b>				
DL 301	Navigation Plotting Lab	1.0		
DL 311	Marine Management Lab	1.0		
DL 320	Introduction to Bridge Simulation	2.0		
ELEC 21	Humanities Elective (Lower Div)	3.0		
FF 200	Basic/Advanced Marine Firefighting	0.0		
NAU 120	Marine Engineering	3.0		
NAU 202	Celestial Navigation	4.0		
NAU 202L	Celestial Navigation Lab	0.0		
NAU 325	Cargo Vessel Operations	3.0		
NAU 335	ECDIS	2.0		
NAU 335L	ECDIS Lab	1.0		
<b>Total</b>		<b>16.0</b>	<b>OR 17.0</b>	
<b>SUMMER CRUISE 2017</b>				
CRU 200	Sea Training II (Deck)	5.0		
CRU 200L	Sea Training II Lab (Deck)	3.0		
<b>Total</b>		<b>8.0</b>		
<b>SUMMER CRUISE 2018</b>				
CRU 200	Sea Training II (Deck)	5.0		
CRU 200L	Sea Training II Lab (Deck)	3.0		
<b>Total</b>		<b>8.0</b>		
<b>SUMMER CRUISE 2019</b>				
CRU 300	Sea Training III (Deck)	8.0		
<b>Total</b>		<b>8.0</b>		

**THIRD MATE'S/OIC/NW LICENSE  
REQUIRED FOR GRADUATION**

1ac Divisions 1&2 take course  
3ac Divisions 3&4 take course  
STCW Courses (Must receive a "C" or higher,  
or "CR")  
\* Courses in Major (CGPA = 2.0 is required)

NOTE: Course content/curriculum may be modified to meet STCW or other regulatory requirements.



**Appendix D – Tables of Program Data****Retention and Graduation – First Time Freshmen**

Cohort	N	Retention Rate		Graduation Rate		
		1st Year	2nd Year	4 Year	6 Year	8 Year
Fall 2007	67	79%	70%	54%	63%	67%
Fall 2008	61	82%	72%	57%	64%	69%
Fall 2009	53	91%	79%	55%	68%	
Fall 2010	53	94%	89%	77%	81%	
Fall 2011	36	81%	72%	53%		
Fall 2012	41	78%	71%	51%		
Fall 2013	65	89%	86%			
Fall 2014	58	86%	81%			
Fall 2015	47	100%				

**Retention and Graduation – Upper Division Transfers**

Cohort	N	Retention Rate		Graduation Rate		
		1st Year		2 Year	4 Year	6 Year
Fall 2007	5	100%		0%	100%	100%
Fall 2008	7	100%		0%	57%	71%
Fall 2009	11	100%		0%	82%	91%
Fall 2010	19	84%		0%	68%	68%
Fall 2011	21	86%		0%	76%	
Fall 2012	17	94%		0%	76%	
Fall 2013	17	94%		0%		
Fall 2014	8	75%		0%		
Fall 2015	23	100%				

**Applications and Admissions**

Term	Applied	Admitted	Enrolled	% Admitted	% Admits Enrolled
Fall 2007	217	171	107	78.80	62.57
Fall 2008	201	156	90	77.61	57.69
Fall 2009	203	166	87	81.77	52.41
Fall 2010	245	183	100	74.69	54.64
Fall 2011	260	165	93	63.46	56.36
Fall 2012	294	172	91	58.50	52.91
Fall 2013	305	173	96	56.72	55.49
Fall 2014	315	168	86	53.33	51.19
Fall 2015	341	173	91	50.73	52.60

## MT Students' Gender and Ethnicity

	11/12	12/13	13/14	14/15	15/16	16/17
Students	318	311	324	303	309	329
Males	276	282	293	270	273	282
Females	29	29	31	33	36	47
Ethnicity:						
American Indian	1	2	2	1	1	0
Asian	12	10	14	14	19	18
Black	2	0	0	0	1	2
Hispanic	24	25	24	28	32	39
Pacific Islanders	5	3	3	3	2	3
Two +	21	27	29	31	31	37
Unknown	26	18	18	20	20	25
White	227	226	234	206	203	205

## USCG Exam Results

Year	Exams	Passed All		Passed $\geq$ 5		Retests Required		
		#	%	#	%	1	2	All
2008	56	24	42.86%	52	92.86%	22	6	4
2009	55	19	34.55%	50	90.91%	24	7	5
2010	68	28	41.18%	56	82.35%	18	10	12
2011	63	37	58.73%	61	96.83%	17	7	2
2012	63	25	39.68%	57	90.48%	20	12	6
2013	62	39	62.90%	59	95.16%	14	6	3
2014	81	44	54.32%	70	86.42%	16	10	11
2015	42	26	61.90%	35	83.33%	5	4	7
2016	43	30	69.77%	40	93.02%	10	0	3

**Appendix E - Faculty Resumes****Curriculum Vitae**

Steven D. Browne  
Department of Marine Transportation  
California Maritime Academy

**EDUCATION**

<u>Dates Attended</u>	<u>Institution &amp; Location</u>	<u>Degree</u>	<u>Major Subject</u>
1995-1997	Northwestern University Evanston, IL	MEM	Engineering Management
1985-1989	Northwestern University Evanston, IL	BA	Computer Studies

**LICENSES AND CERTIFICATIONS**

<u>Dates</u>	<u>License / Certification</u>
2002-present	Master of Steam or Motor Vessels, Unlimited, US Coast Guard
2002-present	STCW, USCG

**PROFESSIONAL EXPERIENCE**

<u>Dates</u>	<u>Institution and Location</u>	<u>Title</u>
2016	International Maritime Organization	Non-governmental Advisor, HTW 3, US Delegation
2015-present	California Maritime Academy Vallejo, CA	Chair, Department of Marine Transportation
2013-2015	California Maritime Academy Vallejo, CA	Director of Faculty Affairs
2012-present	California Maritime Academy Vallejo, CA	Professor of Marine Transportation
2008-2012	California Maritime Academy Vallejo, CA	Associate Professor of Marine Transportation
2004-2008	California Maritime Academy Vallejo, CA	Assistant Professor of Marine Transportation
2003-2004	BISYS Education Services Houston Marine Training Services New Orleans, LA	Director of Training
2002-2003	BISYS Education Services Houston Marine Training Services New Orleans, LA	Marine Instructor
2002	OM Ships Mosbach, Germany	Master, MV Doulos
2000-2001	OM Ships Mosbach, Germany	Chief Mate, MV Doulos
1999-2000	OM Ships Mosbach, Germany	Second Mate, MV Doulos

1998-1999	OM Ships Mosbach, Germany	Third Mate, MV Doulos
1995-1997	Northwestern University Evanston, IL	Assistant Professor of Naval Science
1993-1995	US Navy Yokosuka, Japan	Damage Control Assistant USS Bunker Hill (CG 52)
1991-1993	US Navy Norfolk, VA	Communications Security (CMS) Officer USS Mount Whitney (LCC-20)
1990	US Navy Operation Desert Shield	Operations Department Officer USS Iwo Jima (LPH 7)
1989-1990	US Navy Norfolk, VA	Deck Department 2 <sup>nd</sup> Division Officer USS Mount Whitney (LCC-20)

ANCILLARY POSITIONS HELD CONCURRENTLY

<u>Dates</u>	<u>Institution and Location</u>	<u>Title</u>
2015-present	California Maritime Academy Vallejo, CA	Department Chair, Department of Marine Transportation
2013-2014	California Maritime Academy Vallejo, CA	Chair of the Academic Senate
2010-present	California Maritime Academy Vallejo, CA	Senator, CSU Academic Senate
2009-2011	California Maritime Academy Vallejo, CA	Chair of the Academic Senate
2008-2009	California Maritime Academy Vallejo, CA	Second Mate Training Ship <i>Golden Bear</i>
2008-2009	California Maritime Academy Vallejo, CA	Vice Chair of the Academic Senate
2007	California Maritime Academy Vallejo, CA	Communications Officer Training Ship <i>Golden Bear</i>
2007	California Maritime Academy Vallejo, CA	Senior Watch Officer Training Ship <i>Golden Bear</i>
2006-present	California Maritime Academy Vallejo, CA	Marine Instructor Continuing Education
2006	California Maritime Academy Vallejo, CA	Second Mate Training Ship <i>Golden Bear</i>
2006-2008	California Maritime Academy Vallejo, CA	Harassment/Discrimination Advisor Training Ship <i>Golden Bear</i>
2006	California Maritime Academy Vallejo, CA	Deck Training Officer Training Ship <i>Golden Bear</i>
2005	California Maritime Academy Vallejo, CA	Licensed Watch Officer Training Ship <i>Golden Bear</i>

HONORS AND AWARDS

<u>Dates</u>	<u>Award</u>
2014	Outstanding Professor, California Maritime Academy
1997	Navy and Marine Corps Commendation Medal
1991	Southwest Asia Expeditionary Medal

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

<u>Dates</u>	<u>Organization</u>	<u>Title</u>
2007-present	Nautical Institute	Associate Fellow
2004-present	California Faculty Association	Member
2001-present	National Power Squadron	Honorary Member

RESEARCH AND SCHOLARLY ACTIVITYPublications

<u>Dates</u>	<u>Publication</u>
2011	Pecota, Samuel, Steven D. Browne and Eric Holder. E-Navigation Course: Research and Development. Tokyo: IAMU, 2011.
2006	Browne, Steven D., B.A. Farnsworth and Larry C. Young. Nautical Rules of the Road, Fourth Edition. Centreville, MD: Cornell Maritime Press, 2006.

Invited Papers, Lectures, Presentations

<u>Dates</u>	<u>Paper, Lecture or Presentation</u>
2016	Saarheim, Scott and Steven D. Browne. "Assessment of STCW Competencies Aboard a Maritime Academy Training Vessel." Research paper presented at the International Association of Maritime Universities General Assembly, Haiphong, Vietnam.
2014	Panel Moderator. e-Navigation, Underway Conference conducted at Vallejo, CA.
2013	Browne, Steven D. "The effect of shipboard marine simulation on student success in radar courses." Research paper presented at the International Association of Maritime Universities General Assembly, Constantia, Romainia.
2012	Leyda, Paul, Steven D. Browne and David Coleman. "Combining advanced marine simulation with real mode capacity to enhance OICNW shipboard training." Research paper presented at the International Navigation Simulator Lecturers' Conference, Rostock, Germany.
2012	Leyda, Paul, Steven D. Browne, David Coleman and Tuuli Messer. "Enhancing OICNW shipboard training: Advanced marine simulation on a training ship." Research paper presented at MARSIM 2012, Singapore.
2010	Coleman, David, Samuel R. Pecota, James J. Buckley and Steven D. Browne. "The use of marine simulators in developing the concepts and technology of e-navigation." Research paper presented at the International Navigation Simulator Lecturers' Conference, Dalian, China.
2010	Browne, Steven D. "e-Navigation." Progress report of an IAMU funded project presented at the International Association of Maritime Universities General Assembly, Busan, South Korea.
2010	Browne, Steven D. "The effect of radar and ECDIS display mode on navigational accuracy and situational awareness: A bridge simulation experiment." Research paper presented at the International Association of Maritime Universities General Assembly, Busan, South Korea.
2009	Browne, Steven D. and James J. Buckley. "ECDIS and error trapping: A bridge simulation experiment." Research paper presented at MARSIM 2009, Panama City, Panama.
2008	Buckley, James and Steven D. Browne. "Integration of technology into bridge resource management: Human factor perceptions." Research paper presented at the International Association of Maritime Universities General Assembly, San Francisco.

- 2007 Browne, Steven D. and Samuel R. Pecota. "Use of maritime examples in the teaching of physics." Research paper presented at the Teaching and Learning Conference California Maritime Academy.
- 2006 Punglia, Jaya, Ken Dobra, Ludmila Kisseleva-Eggleton, Peter Hayes, Sam Pecota and Steven D. Browne. "Maritime physics: developing interactive teaching materials connecting physical laws and principles with maritime applications." Research paper presented at the International Association of Maritime Universities General Assembly, Dalian, China.

#### Publications Reviewed

<u>Dates</u>	<u>Publication</u>
2006	Pecota, Samuel R. Radar Observer Manual.. Houma, LA: Marine Education Textbooks, 2006.

#### Grants Awarded

<u>Dates</u>	<u>Grant</u>
2010-2011	Pecota, Samuel and Steven D. Browne. International Association of Maritime Universities, \$60,000. "E-navigation course: Research and development." This funded project developed a model course and course material for the teaching of e-Navigation at maritime universities.
2005-2006	Punglia, J. (PI), Ludmila Kisseleva, Ken Dobra, Samuel Pecota, Peter Hayes and Steven Browne. International Association of Maritime Universities, \$22,075. "Maritime physics: Developing interactive teaching materials connecting physical laws and principles with maritime applications." This research project developed teaching methods to introduce first year maritime college students to physics and mathematical concepts using examples from the marine industry. It is expected that by relating generic math and physics concepts to real-world applications likely to be encountered in the maritime industry, greater interest and performance in the first year math and science courses can be instilled in the maritime academy student.

Tamara C. Burback  
[TBurback@csun.com](mailto:TBurback@csun.com) (707) 853-1860

### EDUCATION

American Public University, Charles Town, WV

Masters of Science in Environmental Policy and Management, expected graduation 2017  
 Presidents List

Mid-Atlantic Maritime Academy, Virginia Beach, VA

Completed all Chief Mate/Master courses required for USCG license upgrade

California Maritime Academy, Vallejo, CA

Bachelor of Science in Marine Transportation, Class of 2007  
 Minor in Law  
 Minor in Global Studies and Maritime Affairs  
 Presidents List

### LICENSE/ENDORSEMENTS

U.S. Coast Guard Master Unlimited Oceans

Vessel Security Officer  
 PIC Medical Care  
 CEMS Certified  
 Fast Rescue Boat Certified  
 PIC Dangerous Liquids (continuity)

### PROFESSIONAL EXPERIENCE

California State University Maritime Academy, Vallejo, CA 2015-Current  
 Marine Vocational Instructor II

Tenure track in the Marine Transportation Department  
 Instruct students in the subjects of Navigation, Navigation Lab, and Bridge  
 Simulation Department assessment coordinator  
 Program advisor

Schiffer Publishing, Atglen, PA 2016-Current  
 Contracted Author

*Master's Handbook on Ship's Business*, Fourth Edition in progress

Blue and Gold Fleet, San Francisco, CA 2014-2015  
 Captain

Operate passenger vessels in the San Francisco Bay  
 Accountable for vessel schedule, condition, and crew and passenger safety

Masters, Mates, and Pilots, Linthicum Heights, MD 2012-2014

## Port Relief Officer/Chief Mate Unlimited

Stand cargo watch on container vessels in the Port of Oakland Permanent Chief Mate with LMS Ship management

LMS Shipmanagement/U.S. United Ocean Services, Tampa, FL

2007-2014

## Chief Mate Unlimited/Vessel Security Officer

Plan and implement safe cargo operations of various bulk and bagged cargoes  
 Experience in foreign and domestic trade  
 Calculate stability of vessel in all conditions Manage Deck Department  
 Organize deck preventative maintenance schedule and daily maintenance projects Promote a healthy and safe working environment for the crew  
 Regulate work/rest hours  
 Write performance reviews and conduct one-on-one coaching sessions  
 Plan and implement ballast operations in accordance with Ballast Management Plan Stand cargo and navigational watches  
 Experience with deck preparation and navigation considerations in transiting high-risk areas Oversee hold cleanliness preparation and inspections  
 Conduct draft surveys and inform terminal/surveyors of cargo demands  
 Practice and implement company policies as defined in the Quality and Safety Management System Cultivate an environment of open communication with Engine and Steward departments  
 Organize and conduct safety drills and training  
 Assist Captain with administrative and navigation duties Direct line shifting of vessel alongside dock  
 Anchor, dock, and conduct Master/Pilot exchanges under Master's supervision  
 Take active role in interactions with office, agents, pilots, terminals, and regulatory agencies Complete crew embark/disembark and payroll paperwork  
 Participated in three complete shipyard periods – one as Chief Mate

## Second/Third Mate Unlimited

Plan and implement dock-to-dock voyage plans Inspect and maintain bridge electronics  
 Maintain hospital supplies and crew reports of illness/injury Manage vessel crew endurance system  
 Inspect and maintain safety and fire-fighting equipment

Duncan Shoemaker & Associates, San Pedro, CA

2011-2012

## Marine Surveyor

Conduct hold inspections and draft surveys  
 Observe and document loading, stowage, and discharge of containers and other dry cargoes Survey and document damage to vessels and cargoes  
 Inspect and test hazardous material containers for transshipment



**HONORS AND AWARDS**

Academic President's List, APU, 2016

Nominated for the Outstanding Teaching Award, CSUMA 2016

**PUBLICATIONS/GRANTS**

Master's Handbook on Ship's Business, Fourth Edition, in progress

Awarded Scholarship of Teaching and Learning Grant, 2016

**PROFESSIONAL AND CIVIC ACTIVITIES**

Certificate in Maritime Environmental Policy, Lloyds Maritime Academy, 2016 Certificate in Leadership and Managerial Skills, 2016

Marine Transportation Representative for the Women in Maritime Leadership Conference

Marine Transportation Department Assessment Coordinator, CSUMA

Marine Transportation Department Academic Program Advisor, CSUMA Faculty Advisor for Earth to Sky Maritime Club at CSUMA

Served on committees at CSUMA Institution Wide Assessment Committee Simulation Committee

Three-School Collaboration Committee Library Committee

Residential Life Strategic Planning Committee

Darrell Conkling  
247 Greyhawk Court Henderson, NV 89074  
360/703-1938  
darrellconkling@yahoo.com

**Mariner:**

- Served as Mate on several 295 ft DP-2 OSV. Familiar with Kongsberg, Beier Radio DP and Rolls Royce systems. Successfully handled DP casualty while working 200 miles offshore.
- Assisted Captain in coordination of boat operation including ABS/Coast Guard compliance, cargo operations, safety protocol and practices, deck maintenance, supply acquisition, and timesheet review.
- Directed handling of containerized, break bulk, liquid, and oversized cargo in Africa, Middle East, Far East, Europe, Scandinavia and North America.
- Supervised vessel maintenance and repairs at shipyards in Germany, Malta and Hawaii.
- Helped successfully fight engine room fire aboard a jet fuel tanker.
- Towed lumber, chemical and petroleum barges on the west coast of the United States and Canada.
- Supervised cargo operations on ships in the Port of Seattle for Sea-Land Services, American President Lines, Delta Lines and Matson Navigation as Port Relief Officer.
- Logged over 1,000 hours operating ship's cargo gear in Alaska off loading palletized refrigerated cargo.
- Navigated most major world choke points e.g. English Channel, Straits of Malacca, Straits of Hormuz, Panama Canal, Suez Canal and Straits of Gibraltar.
- Navigated coast of Canada and Alaska from Seattle to Norton Sound.
- Moved bunker barges on the hip with a 2500 hp tug in the ports of Los Angeles and Long Beach, CA.

**Manager:**

- Was appointed Acting Marine Manager at United States Lines, Long Beach, CA. Handled vessel stowage planning, cargo operations and ship husbandry for 2-3 ships per week.
- Built a successful vending machine company from scratch. Responsible for sales, customer service, safety, human resources, budgeting, training, truck routing, equipment maintenance and purchasing.
- Owned and operated two mobile home parks in Washington and Oregon. Was able to decrease expenses in one park by over 25% in three-year period while increasing occupancy. Responsible for collecting rent, maintenance, marketing, tenant policies, budgeting, adherence to state and local regulations, etc.

**Experience:**

Harvey Gulf International Marine, New Orleans, LA: Offshore Supply Vessel Mate Harvey Champion, Harvey Hawk, Harvey Explorer, Harvey Leader, Harvey Pioneer, and Harvey Wind.  
4/2013-Present

United Ocean Services, Tampa, FL: AB Unlimited 35,000 Ton Bulk Carrier Mary Ann Hudson and ATB Sharon Dehart 4/2012 – 2/2013 Darrell Conkling 247 Greyhawk Court Henderson, NV 89074 360/703-1938 darrellconkling@yahoo.com

LMK, LLC, Henderson, NV: Commercial Property Manager 7/2006 – 3/2012

Champion Vending Service, Anaheim, CA: General Manager 9/1987 – 2/2006

International Offshore Services, Ballard, WA: Mate, Marine Commander 3500 HP Ocean going tug 4/1987 – 8/1987

Offshore Logistics Lafayette, LA: Second Officer, research vessel USNS Assurance 1600GT 10/1986 – 3/1987

Sea-Alaska Products, Inc. Seattle, WA: Chief Mate, Alaska Packer 3678 GT factory ship 4/1986 – 9/1986

Pan Pacific Surveyors, Inc. Wilmington, CA: Marine Surveyor 12/1985 – 3/1986

United States Lines, Inc. Long Beach, CA: Container Operations Supervisor 6/1985 – 12/1985  
Marine Supervisor 9/1984 – 6/1985

La Gloria S.A./Fidemar Ltd., San Vittore, Switzerland: Third Mate, Eveline 10962 GT bulk carrier 11/1982 – 6/1983

Pacific Towboat, Inc., Long Beach, CA: Captain, Pacifico 1,000 HP workboat 11/1982 – 6/1983

Alaska Brands Inc., Seattle, WA: Second Mate, Golden Alaska 3,000 GT factory ship 7/1982 – 10/1982

Marine Transport Lines, Inc., New York, New York: Third Mate, B.T. San Diego 188,000 DWT tanker and Sealift Mediterranean 25,000 DWT tanker 8/1981 -5/1982

Licenses: Second Mate Unlimited, 1600 Ton Master  
Ratings: AB Unlimited / RFPNW

Certificates: BOSIET, HUET, Safe Gulf, SEMS, Confined Space Training, DP BASIC, DP ADVANCED, GMDSS, ARPA, Advanced Fire Fighting, Lifeboatman, Medical First Aid Training, Basic STCW, ECDIS, BRM

Education:

California Maritime Academy, B.S. Nautical Industrial Technology 1981  
University of California, Los Angeles, Political Science 1975-1978

Valerie E. Holl-McGowan  
Faculty Resume, Fall 2016

Academic Rank: Maritime Vocational Lecturer (MVL)

Degree: B. S. Marine Transportation (2011) CSU Maritime, Summa  
Cum Laude  
Minor in Marine Science

Faculty Experience:

Initial Appointment: MVL (6 month contract, temporary, non-tenure track),  
Spring, 2011

Other Positions: MVL (one year contract, temporary, non-tenure track), Fall  
2011 – Present

Courses Taught: DL 105L, 110, 111, 310, 311, 325L  
NAU 102L, 105, 202L, 205, 302, 302L

Total Years Faculty: 3 years, 6 months

Other Related Professional Experience:

Academic: None

Professional Experience: Mechanical Engineering Intern, Mare Island Naval  
Shipyard – 1981  
Service Manager, Bay Marine Boatworks – 2002 to 2007  
Deckhand, Westar Marine Services - 2012  
Day Mate, TSGB Summer 2015 cruise

Relevant Professional Licenses or Certifications:

USCG - 3<sup>rd</sup> Mate Unlimited  
Basic Safety Training  
CSO / FSO / VSO  
ECDIS  
Crisis Management and Human Behavior  
Crowd Management  
US Sailing and US Powerboating Certified Instructor

Recent Institutional and Department Service:

CFA Lecturer Representative  
Small Vessel Program Committee  
Volunteer, 2014 International Robotics Sailing Regatta

## Destiny Knudson

2116 Bridgeport Ave Fairfield, CA 94534 E-mail: dknudson@csum.edu Cell Phone: (707) 718-7117

### SUMMARY:

California Maritime Academy graduate with a Bachelor of Science in Marine Transportation, furthered my education by obtaining a Master of Science in Transportation and Engineering Management with a specialization in Humanitarian Disaster Management. I have continued to upgrade my education by attending additional courses in Spill Management, ISM Code Internal Auditing, and Maritime Security Awareness. Shoreside experience involves but is not limited to teaching and training courses in marine operations, safety management, pollution control, vessel inspection, and incident response. Experience in vessel operations involves container ships, the T.S. *Golden Bear*, paddlewheel vessels, tug boats, and smaller seafaring recreational watercraft.

### WORK EXPERIENCE:

#### California Maritime Academy, Vallejo, CA. (2013-Present)

Maritime Vocational Lecturer for The California Maritime Academy, a specialized campus of the California State University (CSU) system offering six baccalaureate degrees as well as a Master of Science in Transportation and Engineering Management. The extensive curriculum offered at Cal Maritime includes licensing programs for future merchant marine, coast guard and naval reserve officers. **Maritime Vocational Lecturer** – Responsible for preparing and teaching basic and advanced courses that meet the STCW standards in vessel operations and shipboard maintenance as needed.

#### AMNAV Maritime Services, Oakland CA. (2010-2012)

Logistics and Safety Coordinator as well as Designated Person Ashore for a tug boat company specializing in in ship-assist, tanker and barge escorts, marine construction support, salvage, emergency response, military operations, shipyard vessel assist, logistics for oversized equipment, and vessel and barge towing services in the San Francisco bay area. Assisted in vessel operations as needed on a day to day basis.

**Designated Person Ashore (DPA)** - Responsible for the day-to-day functioning of the Safety Management System (SMS) and served as a direct link between the crew and senior management. Maintained the safety, environmental, and quality goals for marine operations. Responsible for all auditing functions of the SMS, including internal and external audits. Maintained and ensured that all drills, meetings and inspections were conducted in the field, and helped coordinate corrective actions resulting from Non-Conformity Reports. Responsible for making sure all safety and pollution prevention requirements were met. Responsible for the implementation and maintenance of the ISM Safety Management manual as well as monitoring ISM compliance by checking monthly for updates from USCG, IMO, ISO, OSHA, MARPOL and Marine Exchange.

**Training and Logistics Coordinator** - Responsible for ensuring that all personnel were trained in accordance with the Safety Management System and all other statutory requirements. Arranged the delivery of necessary resources to the vessels including but not limited to provisions, spare parts, and vendor services. Responsible for boarding the tug boats to assess the safe practices of the vessel and crew members. As the project manager for the Vessel Maintenance System (VMS), I performed testing, troubleshooting, and maintenance of the VMS and ensured that all deficiencies and work orders were being handled in a timely manner. Managed and maintained the company's Incident Response Plan. Acted as Co-Company Security Officer and assisted the Operations Manager with any security issues. Assisted with corrective action for Near Miss Reports, maintained the Near Miss Log and distributed

completed Near Miss Reports. Managed the Frog Environmental storm water sampling program.

**Lady of Suisun**, Suisun City CA. (2010)

**Deck hand** -Worked as a 3<sup>rd</sup> Mate and deckhand on the Lady of Suisun.

**Matson**, Oakland CA, Union Job (2008)

**Wiper/Ordinary Seaman** - Worked as a Wiper/OS for Matson in the port of Oakland, CA.

### **SAILING EXPERIENCE:**

**T.S. Golden Bear**, Training Cruise, (2009)

Performed watchstanding duties as a 3<sup>rd</sup> Mate watch officer and assisted and managed underclass with daily operations. *Completed Sea Training III.*

**Matson**, (2008)

Performed watchstanding duties as a 3<sup>rd</sup> Mate watch officer, assisted in cargo and stability operations, created and presented safety, training and lifesaving presentations for crew. *Completed Sea Training II*

**T.S. Golden Bear**, Training Cruise, (2007)

Performed watchstanding duties as lookout, completed helmsman test, firefighting training, and duties associated with being an Able Seaman. *Completed Sea Training I*

### **LICENCES / CERTIFICATIONS:**

U.S. Coast Guard Third Mate Unlimited License, Able Seaman Unlimited, Basic and Advanced Firefighting, Fire Prevention, First Aid and CPR, ARPA, Radar Observer Unlimited, Bridge Team Management, GMDSS, ECDIS, VSO-CSO-FSO, Personal Survival, Personal Safety, Medical First Aid, "Medical Care" Person in Charge, Lifeboatman and Proficiency in Survival Craft, Fast Rescue Boat, Tanker Familiarization in Oil Tankers and Chemical Tankers, Incident Command System (ICS) Training Levels 100 and 200, Certified ISM Code Internal Auditor, Spill Management, Maritime Security Awareness, Microsoft Word, Excel, PowerPoint, Graphic Design, and HTML.

### **EDUCATION:**

**Bachelor of Science in Marine Transportation**

The California Maritime Academy (2006-2010)

**Master of Science in Transportation and Engineering Management**

**Concentration: Humanitarian Disaster Management**

The California Maritime Academy (2011-2013)

**NICHOLAS ROBERT LEWIS**

Email: llongwr2002@yahoo.com

400 W 8<sup>th</sup> Street, Unit #418, Vancouver, WA 98660

Phone: (360) 593-1341

**QUALIFICATIONS:**

*Licenses: Master of Motor Vessels of Any Gross Tons Upon Oceans, USCG*

**SERVICE:**

*Military: Lieutenant Commander, USNR - Honorably Discharged Nov 2004*

*US Merchant Marine Expeditionary Medal; National Defense Medal*

**EXPERIENCE:**

June 2014 - Daycare Dad

Mar-May 2014 *Transmarine Navigation Corporation – Vancouver, WA, USA – Vessel Manager*

Jun-Aug 2013 *State University of New York Maritime College –Training Ship Empire State - DT Officer*

2011 – Jun 2013 Studying German and assisting in establishing a child daycare business

Feb-Mar 2011 *FriendShips at Port Mercy, Lake Charles, USA – missions organization volunteer*

2009 - 2010 *Operation Mobilization Germany - Transform 2010 initiative: Special Projects*

2008 - 2009 *Operation Mobilization USA - missions - Administrative Assistant to Church Mobilization*

2005 - 2007 *OM Ships International: Mosbach, Germany - missions organization - all volunteer Master - M/V “Logos II” in 2006 & 2007, a 4804 GRT, 110m , Malta Flag passenger vessel Chief Officer of M/V Logos II in 2006; Second Officer & relief Master of M/V Logos II in 2005*

2003 - 2005 Church volunteer, Habitat for Humanity volunteer, self-employed captain

2002 - 2003 *Mercy Ships: Garden Valley, Texas - medical missions organization - all volunteer Chief Mate and 2nd Mate - M/V “Caribbean Mercy”, 2152 GRT, 80m, Panama Flag cargo vessel*

1994 - 2002 *Keystone Shipping Company: Bala Cynwyd, Pennsylvania Master - M/T “Chesapeake City”, a 52155 GRT, 238m, US Flag, Kuwaiti product/crude tanker serving Europort, ports of the Arabian Gulf, the Mediterranean, and in Asia Chief Mate - M/T “Chesapeake City”*

*Chief Mate* - SS "Golden Gate", a 27899 GRT, 223m, US Flag chemical/product/grain tanker serving ports of the USA and involved in world wide trade

*Chief Mate* - SS "Keystone Texas", a 21351 GRT, 200m, US Flag chemical/product tanker serving ports of the US Gulf, East and West coasts of USA, and Puerto Rico

*Second Mate* - SS "Keystone Texas" and M/T "Chesapeake City"

*Third Mate* - M/T "Chesapeake City" and SS "Fredericksburg"

1993 - 1994 *Barwil Wightman Shipping: Philadelphia, Pennsylvania*

Import Manager and *Boarding Agent* for liner and bulk services

#### EDUCATION:

*United States Merchant Marine Academy, Kings Point, New York- Graduated June 1993*

Degree: Bachelor of Science in Marine Transportation

#### ADDITIONAL DETAILS:

- Additional qualifications: TWIC; Instructor, Supervisor and Assessor; Advanced Firefighting; Safe Transportation of Hazardous Materials; Shipyard Health & Safety; CBR-D; ECDIS experience
- CAMM member. Small vessel handling experience. Learning German and Spanish. Regimental Protocol Officer at USMMA. Varsity Crew. Enjoys sailing, arts, tennis, soccer, water & snow sports



**CAPTAIN TUULI A. MESSER-BOOKMAN**

**593 Willow Court**

**Benicia, CA 94510**

**Phone/Fax 707-745-8335**

**E-Mail: tuulimb@aol.com**

**PRESENT POSITIONS**

Professor – Marine Transportation Department, California Maritime Academy

Member – Vallejo Municipal Marina Advisory Committee (Summer 2014 – Present)

Chair – Academic Senate Judicial Committee - California Maritime Academy

Member – Academic Senate Retention, Tenure and Promotion Committee (2016 – present)

Consultant – Maritime Issues and Maritime Law (1998 - Present)

Expert witness, investigations, research and consulting for various firms.

Certified as an expert, and have testified in State and Federal Courts.

**EDUCATION**

Juris Doctor, University of San Francisco School of Law, 1995

- Member - California State Bar #239632 (inactive)

B.S. Marine Transportation, U.S. Merchant Marine Academy, Kings Point, NY, 1986

**U.S. COAST GUARD LICENSE and U.S. NAVAL RESERVE**

USCG Unlimited Tonnage Master – Upon Oceans, Unlimited Tonnage

U.S. Naval Reserve (1986 - Nov. 2006)

Honorably Discharged as Lieutenant Commander

**PAST EMPLOYMENT**

Past Positions Held at California Maritime Academy

Chair – Academic Senate Policy Committee (2005-2016)

Member – Academic Senate Executive Committee (Fall 2014 – Spring 2016)

Member – Edwards Leadership Planning Committee (Fall 2014)

Vice President – California Faculty Assoc., Maritime Ch. (Spring 2010 – Fall 2012)

President – California Faculty Assoc., Maritime Chapter (Spring 2007 - Fall 2009)

Senator – California State University Academic Senate (Fall 2006 - Summer 2008)

Chair – Marine Transportation Department (January 2003 - December 2005)

Chair – Academic Senate Executive Committee (2001 - 2002)

Secretary – Academic Senate Executive Committee (1999 - 2001)

Treasurer – California Faculty Association (1999 - 2007)

**Instructor**

California Maritime Academy Extended Learning

- USCG Leadership Course (co-instructor 2016 - present)

- USCG Captains' License Course (2009, 2010)

- Basic Safety Training (Spring 2009)

U.S. Power Squadron

- Boat Smart Course - 2006

- Coastal Navigation and Piloting - 2009

Pollution and Safety Advisor (1995-2001)

Sea-River Maritime (ex-Exxon Shipping Co.)  
150 West Industrial Way  
Benicia, CA 94510

Owner/Founder – Gold Stack Maritime, LLC (1996-2001)

A (small) Tug, Salvage and Consulting Company on San Francisco Bay  
Richmond, CA

Owner/Founder – Tam Navigation (1992-1995)

Maritime Instruction, USCG License Preparation and Navigation School  
Sausalito, CA

Sea-Going Employment (1987-1992)

Employed through various unions, sailed as AB and various officer billets.  
Primarily commercial offshore deep-sea experience, also did international deliveries, tugs. Classes of vessels include: Tugs, Tankers (clean and dirty), Containers, Ro-Ro, Break-Bulk, Semi-Submersible, Surveillance, Catcher-Processors, LCM delivery, etc.

Marine Analyst (1986-87)

Instructor – Shell Supervisory Tankerman Course  
Pre-Charter Surveyor  
Head Office Representative to Shell’s terminals along the Mississippi River  
Head Office Liaison to Shell Crude Oil terminals in Gulf of Mexico  
Shell Oil Co., Houston, TX

**BOOKS, ARTICLES, PUBLICATIONS**

- *“Maritime Casualties: Causes and Consequences”* Cornell Maritime Press, August 2015
- *“Close Quarters: A Woman’s Guide to Living and Working in Masculine Environments”* Schiffer Publishing, Ltd., Jan 2011
- *“Developing a Unified Institutional Philosophy Towards Simulation-Based Assessments and Exercises”* presented at the International Navigation Simulator Lecturers’ Conference, Genoa, Italy, July 2006
- *“Your Legal Rights When Trouble Hits”* Mariner’s rights during a USCG investigation. Professional Mariner, July 2003
- *“Master’s Handbook on Ship’s Business”*, 3<sup>rd</sup> Edition  
Cornell Maritime Press, 2001
- *“In Traction: The capabilities of the new generation of tugs are often misunderstood.”*  
Workboat Magazine, May 2000
- *“Discharge Exemptions May Be Revoked”*  
Workboat Magazine, February 2000
- *“Special Feature on Law and Insurance”*  
Pacific Maritime Magazine, October 1998
- *“Punitive Damages in Admiralty”*, Article Editor

- University of San Francisco School of Law Maritime Law Journal, Volume 7.2, 1995
- Research Assistant to Charles S. Donovan, Esq. (Walsh, Donovan, Lindh and Keech)  
“Exculpatory and Benefit Insurance Clauses in Towage and Pilotage”  
Tulane Law Review, Volume 70, Numbers 2 and 3, 1995

### **SPEAKING ENGAGEMENTS**

- Invited Speaker – Corinthian Yacht Club “The Perils of Electronic Charts” – Oct. 2016
- Invited Speaker – Sausalito Library Speaker Series “Marine Salvage” – Oct. 2016
- Invited Speaker – American Merchant Marine Veterans Association Annual Convention,  
Reno, NV – September 2015
- Panelist/Speaker “Women in the Maritime Trades” San Francisco Maritime National Park -  
March 2015
- Invited Speaker “Maritime Salvage” OCSC Sailing School – Jan. 2015
- Invited Speaker “Maritime Safety and Casualties” Council of American Master  
Mariners – March 2014
- Invited Speaker “Maritime Safety and Casualties” OCSC Sailing School – Feb. 2014
- Invited Speaker “The Perils of Chart Plotters” – Strictly Sail Boat Show - April 2010
- Invited Speaker “The Perils of Chart Plotters” – Sail Fest Alameda - April 2010
- “The Port Chicago Incident” – historical research and presentation made to campus  
community during Black History Month (February) 2004, 2005, 2006
- “Free Speech on College Campuses” – legal and historical research and presentation made  
to campus community at the request of CMA Academic Senate, 2004, 2005, 2006

### **CERTIFICATES AND MEMBERSHIPS**

- Vallejo Yacht Club – Member (2012 – 2015)
- U.S. Powerboating: Safe Powerboat Handling Certification #15493 – June 2011
- Council of American Master Mariners – Member – 2010 - Present
- Orrin French Educational Award for Teaching – U.S. Power Squadron - 2009
- Trustline Registry (#U0181292) CA Health and Human Services Agency (background check)
- State of California Boating and Waterways “California Boating” Course - 2005
- ISPS/MTSA Ship and Company Security Officer – Military Sealift Command - 2004
- Anti-Terrorist Officer Level 2 Instructor – Military Sealift Command - 2004
- Chemical, Biological, and Radiological Defense Officer – Military Sealift Command - 2004
- “Train the Trainer - 5 Days or 5 Minutes” – USCG Approved for STCW Assessors - 2003
- International Ship and Port Security Code (ISPS) – State University of New York - 2003
- American Council on Education – Assessor for College Credit Recommendation Svc. - 1999
- USCG “Train the Trainer” and “Bridge Resource Management” for simulator instrs. - 1998
- USCG Dangerous Liquids Certified - 1996
- FCC GMDSS Certified - 1996
- FCC Ham Radio Operator, Technician Class - 1995
- Hazardous Materials Certified, Intl. Order of Masters, Mates and Pilots - 1993
- USCG Adv. Ship Handling Simulator, Maritime Institute of Tech. & Graduate Studies - 1992
- USCG Shipboard Supervisor’s Employee Assistance Program - 1992
- Ship Stability Certificate, National Cargo Bureau - 1986

## **SCOTT ROBERT SAARHEIM**

17 Sims Ave. Vallejo, California 94590 (707) 647-7447

[salnilam@earthlink.net](mailto:salnilam@earthlink.net)

[ssaarheim@csum.edu](mailto:ssaarheim@csum.edu)

### **MARITIME RELATED EXPERIENCE:**

#### **CALIFORNIA MARITIME ACADEMY**

##### **Training Ship *Golden Bear***

###### Onboard Responsibilities

Communications and Meteorology Officer.

Practical Training Officer – Fire Fighting, First Aid, Damage Control, Enclosed Space Entry, and Survival Craft Procedures.

Professional Training Officer – Rules of the Road, License Preparation, Navigation, Radar/ARPA.

Bridge Watch Officer.

Simulation Instructor, Simulation Operator.

Lead Deck Training Officer.

##### **Marine Transportation Department**

###### Courses Taught

Maritime Vocational Instructor 1997 to Present.

Global Maritime Distress and Safety System Instructor, Radar Instructor, ECDIS Instructor, Advanced Navigation Instructor, FCC Examiner, STCW Assessor.

Simulation Operator and Instructor.

##### **Committee Work**

Chair Academic Senate Academic Integrity Committee, Curriculum Committee Member, Scholarship Committee Member, Academic Senate Sub Committee on Instructor Evaluation.

Academic Master Planning Task Force Member.

##### **Union Work**

CFA Chapter President, Member of State Wide Bargaining Team (Bargaining Team Advisory Committee).

**COMMERCIAL FISHING IN ALASKA-BRISTOL BAY**

Deckhand on the family fishing vessel for the 2012 Bristol Bay sockeye season. Previously served as deckhand for sockeye and hearing seasons.

Beach Boss for set netting operations at Ekuk and Kvichak.

**ARCO MARINE: January 1995 to January 1997****Third Mate**

ARCO Independence - a 1100 ft. crude oil tanker

ARCO Juneau - a 800 ft. crude oil tanker

Responsible for the safe navigation of the vessels, including loading and discharge. Supervised deck crew during maintenance, docking, cleaning. Safety officer.

**DREDGE OPERATORS INC.: July 1991 to April 1994****Third Mate**

Dredge Stuyvesant- a 500ft. twin controllable pitch propeller trailing arm suction hopper dredge (largest dredge in the U.S. fleet). Employed with the vessel while under contract for various phases of the multi - billion dollar Hong Kong Airport project. Excelled under a high pressure work environment. Piloted the vessel (un-assisted) through high density traffic in Hong Kong's waterways. Performed various mechanical operations while the vessel was dry-docked for maintenance or equipment upgrade.

**Credentials/Marine Endorsements**

Third Mate's License, Unlimited Tonnage, Any Ocean, STCW 95, Valid to 2015. Bridge Control Maneuvering Systems Certificate. United States Coast Guard Approved Advanced Marine Fire Fighting Strategy and Tactics Course. ARPA Endorsement. Marine Radio Operator Permit. GMDSS Operator/Maintainer. FCC Radar Endorsement, GMDSS Endorsement. Medical PIC. Certified First Responder, ECDIS.

**Education**

AA in Liberal Arts & Sciences, Clatsop Community College, Astoria, Oregon, June 1987.

B.S. in Marine Transportation, California Maritime Academy, Vallejo, California, May 1991.

Master's in Education with Emphasis on Technology – On hold

### **Additional Skills**

Broad PC and Mac computer skills, Excel - Word - PowerPoint - Access.

Shipboard network architecture and implementation.

Webpage design and implementation.

CMS/LMS use and implementation.

### **Professional Organizations and Memberships**

Member California Faculty Association.

Co-Chair LGBT Caucus of the California Faculty Association.

Member of Napa Solano Central Labor Council

Member American Association of University Professors.

Member Radio Technical Commission for Maritime Services.

American Council on Education Program Review Team.

Appointed to Cyber Sub Committee of the Area Security Committee.

### **Personal Development and Hobbies**

Running, swimming, biking, team rowing, sailing, fly-fishing, painting, photography, home renovation.

**Marisa Sutro**

marisasutro@gmail.com : 415.250.0408 : 1429 Gordon St. Vallejo, CA

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**OBJECTIVE**

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To engage in the maritime environment as a training officer and develop my skills as an industry professional

**EDUCATION**

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**California Maritime Academy – Vallejo, CA**

BS in Maritime Transportation with USCG unlimited 3<sup>rd</sup> Mate License, April 2014

- **Cum laude**
- Served as Associated Student Body activity coordinator and on Cadet Review Board (Spring 2011)
- Division Executive Officer (Summer 2013)
- **Dean's List**

**College of San Mateo – San Mateo, CA.**

**Welding Technology, 2007**

**EMPLOYMENT**

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**2014-2015 Third Mate, Masters, Mates & Pilots, Oakland, CA**

- Sailed on the RV Langseth and Moku Pahu
- Served as Night Mate on various vessels

**2010-2014 Library Student Assistant, California Maritime Academy, Vallejo, CA**

- Located print and online materials for students completing research projects
- Instructed students on research techniques and the use of information technologies
- Resolved patrons' complaints tactfully and professionally

**May 2012 - Aug 2012 Cadet, United Ocean Services, San Francisco, CA**

- Sailed on a bulk carrier delivering grain to Bangladesh in summer of 2012
- Assisted the captain with ships business in various international ports including assisting with customs, agents, and the classification society representatives
- Supported the Chief Mate and deck gang in cargo movement, daily operations, and security precautions in international ports and pirate waters
- Contributed to the voyage planning process and equipment safety checks

**2008-2010 Exhibit Technician, The Exploratorium, San Francisco, CA**

- Worked directly with engineers and designers on exhibits for various museums

- Investigated exhibit failures to diagnose faulty operation and made appropriate maintenance recommendations
- Performed on-site field installations. Worked as liaison between The Exploratorium and partner museums throughout the country to maintain a positive and productive relationship

**SKILLS**

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- Enjoy finding innovative solutions
- Motivated to develop diverse skills
- Excellent communication and interpersonal skills



## **James A. (Jim) West**

### **CMA Faculty Resume 2-2016**

**Academic Rank:** Maritime Vocational Lecturer

**Degree:** AA Business Management (1979) Canada College, Redwood City CA

#### **Faculty Experience:**

Initial Appointment: Maritime Vocational Lecturer, January 2013-May 2013

Other Positions: N/A

Courses Taught or Assessed: Tug and Barge, Marine Survival Lab, Ship Operations I & II  
Small Craft Operations (lab), Piloting Navigation Lab  
Rules of the Road, Radar / ARPA Lab

Total Faculty Time: Three Years, one month

#### **Other Related Professional Experience:**

Academic: Maritime Instructor for Training Resources Limited (2003-2008)  
USCG approved for: Personal Survival, Able Seaman, Firefighting,  
Rating Forming Part of a Navigation Watch, Personal Safety & Social Responsibility

Boat Operations Trainer for Grant Maritime Training Program (2003-2008)

Trainer at Foss Maritime, part time (2011-2012)  
Self-Contained Breathing Apparatus and Forklift

Professional: Foss Maritime - Tug Boat Captain (2008 – 2013)  
Petroleum barge moves > 1600 Gross Tons, Ship Assist and Escort

Brusco Tug and Barge - Tug Boat Captain, part time (2005 – 2008)

Dispatched by Operating Engineers - Boat Captain (1999 – 2003)  
Marine Construction and Dredging

Liberty Maritime Museum - Training Vessel Captain (1987- Present)  
Crew training, boat operations (Volunteer Position)

UPS, Ford Aerospace, B. F. Goodrich (1976-1999)  
Mechanical Systems maintenance, trouble-shooting, repair, fabrication

U.S. Navy (1972-1975) Machinist Mate, Ship and Boat Engineer

**Maritime Professional Memberships:** Council of American Master Mariners  
Historic Naval Ships Association  
Liberty Maritime Museum

**License & Endorsements:** Master, Steam or Motor Vessels, 1600 Tons, Oceans  
Master, Towing Vessels, Oceans and Western Rivers  
Master, Auxiliary Sail Vessels, 150 Tons

Designated Examiner for assessment of candidates for USCG approved  
towing vessel licenses for all routes: Near Coastal/Oceans and Great  
Lakes / Inland.

Vessel Security Officer  
Radar Observer (Unlimited)  
Able Seaman – Any Waters, Unlimited  
Lifeboatman  
Automatic Radar Plotting Aid (ARPA)  
Electronic Chart Display & Information System (ECDIS)

**Training or education in instructional technology, education, or assessments:**

Forklift Trainer Course (Counter-balanced & Rough Terrain), IVES Training Group (2012)  
Crew Endurance Management System (CEMS) Coaches Training, Salyers Solutions (2010)  
Bridge Resource Management for Tug/Barge Operators, Foss Maritime (2010)  
Simulator Instructor Training, (Train the Trainer) Marine Science Institute (2003)

**Community Service:**

Volunteer Sea Scout program leader (1976-present)

Skipper of the all-girls Sea Scout program, Tiki Too (1989-present)

Tiki Too is the most successful regatta (scout maritime skills competition) team in California.

Tiki Too operates the largest all-girls training vessel in the United States (95' PTF-26, *Liberty*).

Helped to bring Sea Scout's largest national competition to The California Maritime Academy.

The Ancient Mariner Regatta, held on Memorial Day Weekend, introduced 26 maritime crews, with hundreds of high school students, to the Cal Maritime campus.