U.S. Merchant Marine Academy

Comprehensive Self-Study Report

DRAFT

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Glossary of Acronyms and Abbreviations

ABET	Accrediting body for programs in the disciplines of applied science, computing, engineering, and engineering technology
A-Board	Academic Board
ACE	The Peachman Academic Center for Excellence
ACFO	MARAD Assistant Chief Financial Officer/Academy Chief Financial Officer
AD	Academic Division
ALO	Accreditation Liaison Officer
ADA	Anti-Deficiency Act
AOAC	Academic Outcomes Assessment Committee
AY	Academic Year
AICC	Academy Internal Control Council
ARB	Academic Review Board
ARPA	Automated Radar Plotting Aid
AST&L	American Society of Transportation and Logistics
ATR	Academy Training Representative
BRM	Bridge Resource Management
BRP	Blue Ribbon Panel
BUMED	US Navy Bureau of Medicine and Surgery
CAMS	Comprehensive Academic Management System
CAORF	Computer Aided Operations Research Facility
CAST	Committee on Academic Standards and Teaching
CEB	Candidate Evaluation Board
CFO	Chief Financial Officer
CFR	Code of Federal Regulations
CIO	Chief Information Officer
CIP	Capital Improvement Program
CLA	Collegiate Learning Assessment
CO	Company Officer
COR	Campus Operating Requirements
CPC	Core Program Committee
CQPA	Cumulative Quality Point Average
CTL	Certified in Transportation and Logistics
DIA	Director of Institutional Assessment
DM	Dean's Memorandum
DMDC	Defense Manpower Data Center
DNS	Department of Naval Science
DOD	Department of Defense
DoDMERB	Department of Defense Medical Examination Review Board
DOT	Department of Transportation
DPS	Department of Public Safety
EAC	Engineering Accreditation Commission of ABET

ECDIS	Electronic Chart Display and Information System
ECR	End of Course Report
EDR	Electronic Documents Room
EIAB	Engineering Industry Advisory Board
EIRT	Engineering Industry Roundtable
EMS	Emergency Medical Squad
EMT	Emergency Medical Technician
FE	Fundamentals of Engineering Exam
FERPA	Family Educational Rights and Privacy Act
FMFIA	Federal Managers Financial Integrity Act
FWG	Financial Working Group
FY	Fiscal Year
GAO	Government Accountability Office
GMATS	Global Maritime and Transportation School
GMDSS	Global Maritime Distress and Safety System
GNVFCO	Great Neck Vigilant Fire Company
GPA	Grade Point Average
GS	General Schedule Personnel Positions in the Federal Government
GSA	General Services Administration
GSK	General Storekeeper
HEOA	Higher Education Opportunity Act
HR	Human Resources
HUM	Humanities Department
ICC	Internal Control Coordinators
ICO	Internal Control Officer
IEC	Institutional Effectiveness Committee
IMO	International Maritime Organization
INDOC	Midshipmen Indoctrination
IPC	Infrastructure Planning Committee
IT	Department of Information Technology
KUP	Knowledge, Understanding, and Proficiency
LAN	LAN Local Area Network
M & R	Maintenance and Repair
M & S	Math and Science
MAO	Maritime Administration Order
MARAD	Maritime Administration
ME	Department of Marine Engineering
MES	Marine Engineering Systems
MESM	Marine Engineering and Shipyard Management
MET	Maritime Education and Training
MHEMS	Midshipmen Health and Emergency Medical Services
ML & S	Maritime Logistics and Security Major
MMarE	Master of Science in Marine Engineering
MROR	Maintenance, Repair & Operating Requirements

MT	Department of Marine Transportation
MVS	Midshipmen Values Survey
NASA	National Aeronautics and Space Administration
NCAA	National Collegiate Athletic Association
NCEES	National Council of Examiners For Engineering and Surveying
NMC	USCG National Maritime Center
NMMI	New Mexico Military Institute
NOAA	National Oceanic and Atmospheric Administration
NS	Naval Science
NSSE	NSSE National Survey of Student Engagement
NSLIJHS	North Shore–Long Island Jewish Hospital System
NVIC	USCG Navigational and Vessel Inspection Circulars
OCLC	Online Computer Library Center
OGE	United States Office of Government Ethics
OIG	Office of Inspector General
OMB	Office of Management and Budget
OPM	United States Office of Personnel Management
OST	Office of the Secretary of Transportation
PAE	Physical Aptitude Examination
PBR	Program Baseline and Review
PD & A	Program Direction & Administration
PDCS	Office of Professional Development and Career Services
PE	Professional Engineer
PE & A	Physical Education and Athletics Department
PIC	Person in Charge
PLUS	Federal student aid loans to parents
PMS	PMS Performance Management System
PTFE	Part-Time Federal Employee
QSS	Quality Standard Systems
PRR	Periodic Review Report
RADM	Rear Admiral
RFD	Referred for Disenrollment
RMO	Risk Management Officer
SAAC	Student-Athlete Advisory Committee
SAPR	Sexual Assault Prevention and Response
SARB	Sexual Assault Review Board
SARC	Sexual Assault Response Coordinator
SES	Senior Executive Service
SIRS	Student Instructional Rating Survey
SI	Superintendent's Instruction
SMC	Superintendent's Management Council
SMSS	Subcommittee on Midshipman Support Services
SN	Superintendent's Notice
SNAME	Society of Naval Architects and Marine Engineers

SoA	Statement of Assurance
SOLAS	Safety of Life at Sea
SSOP	Strategic Sealift Officer Program
STCW	Standards of Training, Certification, and Watchkeeping
TMS	Training Management System
TV	Training Vessel
USC	United States Code
USCG	United States Coast Guard
USMMA	United States Merchant Marine Academy
VBSS	Visual Bridge Ship Simulator
VPDSD	Vessel Personnel with Designated Security Duties
WAC	Writing-across-the-curriculum

Introduction and Executive Summary

The United States Merchant Marine Academy (USMMA) is one of the five United States federal service academies. Its roots lie in the Merchant Marine Act of 1936, wherein Congress authorized a federal merchant marine cadet program to educate mariners to serve the economic and strategic needs of the nation. In 1947, the Academy began granting four-year Bachelor of Science degrees; in 1954, Congress made the Academy permanent. The Maritime Administration (MARAD) of the United States Department of Transportation (DOT) operates the Academy. The current USMMA mission is, as follows:

> *To educate and graduate licensed merchant mariners and leaders of exemplary character who will serve America's marine transportation and defense needs in peace and war.*

In addition to receiving their baccalaureate degree, Academy graduates earn USCG licenses as deck or engineering officers and also accept a commission, if offered, in the U.S. Naval Reserve or another uniformed service. On average, roughly seventy percent of graduates sail as merchant mariners each year, with about twenty-five percent choosing the military option and five percent entering other approved maritime-related careers. Alumni serve in leadership positions across every segment of the U.S. maritime industry, in all branches of the military, in numerous government agencies and also in the private sector.

Four fundamental pillars constitute the USMMA educational experience: Academics, Regiment, Athletics (or Co-Curriculars), and Sea Year. During Sea Year, a globally mandated experiential learning component, each midshipman works and learns on board merchant ships or approved military vessels for 300-330 days, depending on their academic major. As a result, the USMMA academic year is eleven months, with forty instructional weeks; the academic calendar enables midshipmen to meet graduation requirements in four years. Once enrolled, many midshipmen are engaged in the USMMA experience year-round, whether through Sea Year, regimental obligations, required internships, or summer school.

The academic majors presently offered by the Academy are housed in the two degree-granting departments: Marine Transportation and Marine Engineering. The five majors offered are Marine Transportation, Maritime Logistics and Security, Marine Engineering, Marine Engineering Systems, and Marine Engineering and Shipyard Management.

Maritime education and training programs must comply with the globally adopted Standards of Training, Certification, and Watchkeeping (STCW). These standards are promulgated by the International Maritime Organization (IMO), the UN agency responsible for maritime safety and pollution prevention. Institutional compliance with these standards is constantly monitored through internal vetting as well as through external review by the appropriate governmental agency. Accordingly, USMMA constantly assesses its maritime education curriculum and makes effective changes to maintain a robust licensing program, in full compliance with any changes in national and international maritime education standards.

The Self-Study Report

This comprehensive Self-Study Report is the product of a collaboration between a fourteen-member Steering Committee and nine individual Subcommittees. Faculty members representing the six academic departments (Marine Transportation, Marine Engineering, Math and Science, Humanities, Naval Science and Physical Education) and staff from other academic and administrative units served both on the Steering Committee and as a "liaison" to each Subcommittee. The Subcommittees, each led by a chairperson, likewise consisted of representatives from academic, regimental, and administrative units.

Each Subcommittee took ownership of one to two "Standards" from the Middle States Commission on Higher Education (MSCHE) *Characteristics of Excellence*; determined its own self-study questions for its respective "Fundamental Elements"; and researched the USMMA itself in order to find evidence for compliance and to tell the institution's own story. All Subcommittees wrote several drafts of their chapters. The Steering Committee discussed each chapter and provided written comments, feedback and constructive criticism. The final report thus represents the collective effort of the faculty and administration as a unified institutional "team" and contains nine chapters (with five chapters addressing two MSCHE Standards). It also takes an in-depth look at the challenges faced by the Academy and proposes recommendations designed to improve overall efficiency in administrative and institutional operations.

CHAPTER 1: MISSION, GOALS & INTEGRITY

Standard 1: Mission and Goals

The institution's mission clearly defines its purpose within the context of higher education and indicates who the institution serves and what it intends to accomplish. The institution's stated goals, consistent with the aspirations and expectations of higher education, clearly specify how the institution will fulfill its mission. The mission and goals are developed and recognized by the institution with the participation of its members and its governing body and are used to develop and shape its programs and practices and to evaluate its effectiveness.

Mission

The Academy's mission traces back to the Merchant Marine Act of 1936 which recognized that a U. S.-flagged Merchant Marine is essential for both the economic and security interests of the nation. The Act officially designated that America's merchant ships should be staffed by professionally qualified American citizens and, to that end, created the United States Merchant Marine Academy as the fourth federal service Academy. Successive Congressional Acts reaffirmed the federal USMMA [EDR: 46 CFR 310].

The Secretary of Transportation oversees the education and training of citizens who will safely and efficiently operate the Merchant Marine at all times, including as a naval and military auxiliary. Thus, the Secretary of the Navy ensures that the USMMA curriculum includes education consistent with United States Navy standards and needs.

While it may be true that the Academy "has three, often overlapping identities as a military institution, a professional/technical school, and a small college" [App. 1-2], its core mission has not changed since its inception in 1936. The current mission statement of the USMMA is "to educate and graduate Merchant Mariners and leaders of exemplary character who will serve America's marine transportation and defense needs in peace and war."

Though the Academy has always had a mission statement calling for the education and training of students who will lead in maritime fields and serve the nation, the current mission statement was generated during the most recent strategic planning process undertaken in Spring 2012 when, in accordance with *Senate Report 112-83* [EDR], the Secretary of Transportation submitted *USMMA Strategic Plan: 2012-2017* to the House and Senate Committees on Appropriation [App. 1-1].

When *Senate Report 112-83* was issued in September 2011, a strategic planning initiative was already under way at the Academy, overseen by then Superintendent RADM Philip Greene. Academy staff gathered, studied and analyzed strategic plans for comparable institutions of higher education. However, one month after *Senate Report 112-83* was issued, the Superintendent was precipitously reassigned, though the deadline set for the submission of a strategic plan, April 30, 2012, remained in place.

In March 2012, the John A. Volpe National Transportation Systems Center (Volpe Center) prepared for the Office of the Secretary of Transportation (OST) and the Maritime Administration (MARAD) a "Summary of Critical Themes and Recommended Strategic Planning Process" document for the Academy [App. 1-2]. The Volpe Center supported OST and MARAD by designing a formal strategic planning process for developing the plan and identifying key stakeholder groups to participate.

The Volpe Center also supported OST and MARAD by providing stakeholder feedback on the range of critical issues and questions that the plan should address.

A Strategic Plan Steering Committee Charter [App. 1-3] was published on March 13, 2012, with a Strategic Plan Steering Committee subsequently formed consisting of representatives from the Academy, MARAD, the Department of Transportation (DOT) and OST [EDR: Strategic Plan Steering Committee]. The Steering Committee solicited input from both internal and external stakeholders, examining industry trends, views of Congress and concerns of the Office of Management and Budget (OMB).

Midshipmen, faculty and staff were invited to several focus groups. The Volpe Center also gathered and synthesized additional input from DOT representatives, industry, alumni, community leaders, parents and external stakeholders. The result was a revised mission statement and strategic plan outlining the Academy's vision, values, and goals, issued in July 2012 [App. 1-1]. *USMMA Strategic Plan: 2012-2017* contains five strategic goals, with accompanying objectives, strategies and performance measures for each goal. The five goals are as follows:

1. Deliver integrated and innovative academic, professional and regimental programs to prepare midshipmen for leadership and service to the nation
2. Strengthen leadership, organizational capacity and governance of the Academy at all levels
3. Create a vibrant, diverse and inclusive culture to attract and educate best-in-class maritime leaders
4. Modernize the infrastructure and strengthen administrative services to support outstanding scholarship
5. Improve communication and build strong and lasting relationships with external stakeholders

The Academy's institutional goals promulgated in 2009 by then Superintendent RADM Worley [EDR: SI 2009-15] remained in effect until cancelled by Superintendent's Notice (SN) 13-04 in July 2014 [EDR].

Immediately following dissemination of the Plan and its strategic goals, Strategic Plan Action Teams organized in the Fall of 2012 [EDR: Implementation Action Team Assignment List] to develop strategies, tasks and milestones in order to meet the performance measures, though these did not always provide the optimal means to demonstrate substantive achievement of the institutional goals. Perhaps for this reason, evidence was scant as to any actions undertaken or prompted by said action teams. Indeed, at a presentation to the Advisory Board the Deputy Superintendent referenced a problem with the performance measures designated by the *USMMA Strategic Plan*, and announced an intention to work on a new plan prior to 2017 [EDR: Strategic Plan Assessment]. Chapter 2 discusses the makeup of the Advisory Board while Chapter 3 looks further at how strategic goals drive planning, resource allocation and institutional renewal.

The plan itself contains little guidance on the nuts and bolts of education. Indeed, the plan is not geared towards an institution of higher education. Though some faculty were members of the Strategic Plan Steering Committee, and many, if not all, attended one of the several focus groups, assessment data from the institution itself was not analyzed, leaving many faculty feeling a lack of ownership over a plan designed to serve as a "compass" to guide all aspects of education at the Academy.

In addition, because the Strategic Plan does not contain institutional level learning goals, a space opens up for debate regarding how best to achieve the mission, how best to balance the three "identities" pinpointed by the strategic planning process, with different Academy constituencies harboring potentially competing views on maritime education. Thus, though the mission of the Academy has remained largely unchanged, so too has debate about how to reconcile the balance of identities, stakeholders and obligations baked into the Academy itself by 46 Code of Federal Regulations (CFR) Part 310 [EDR], which sets forth governing rules for the Academy. Institutional level learning goals offer one way for faculty, staff and students alike to share a single vision for what constitutes successful achievement of the mission as well as assessable learning outcomes on an institutional level.

As discussed above, the mission of the USMMA is clear and well communicated to students, also called midshipmen – and plebe candidates, plebes and fourth classmen during their first year. Indeed, students are drawn to the Academy because of its mission and for the opportunities after graduation tied to the mission. The mission statement is also published in the course catalog [EDR], and on the Academy website.

Superintendent RADM Helis is spearheading a new initiative to create a more formal leadership development program in order to advance the "leadership" and "service" aspects of the Academy mission statement. The proposal also springs from ongoing, lively dialogue as to what the mission can or should expand to contain while retaining its maritime identity and satisfying its myriad requirements. The *Advisory Board Report* to Secretary Foxx of May 2014 [EDR], the Secretary of Transportation letter to RADM Helis of July 2014 [App. 5-3], and SN 2014-15 "Midshipman Leadership Development Program Working Group" of August 2014 [EDR: SN 2014-15] each task the Academy with developing this program. The Regiment is currently establishing a way to evaluate or assess leadership and the Midshipmen Leadership Development Program Working Group, asked to study how to conceive of and implement a more formalized curriculum, gave a presentation to the Advisory Board in February 2015 [EDR: Leadership Program brief]. Draft directives for leadership education exist as do letters written to advance views on the subject [EDR]. Most recently, the Superintendent introduced a new course on leadership accompanied by a presentation exploring definitions, practices and philosophies of leadership, including of leadership education. This course, a version of which having already been taught, will continue as an elective in AY 2016, becoming a requirement of all midshipmen in AY 2017.

Goals

The Academic Division (AD) has nine overarching program goals [App. 1-5] which stem from the Academy's mission. The goals outline the attributes that the Academy seeks to develop in every graduate and encompass "professional," "leadership" and "general education" aspects. From these nine program goals, each department developed and derived both departmental and course level learning goals. As discussed in Chapter 9, the AD goals are thus reinforced for students and faculty alike on program, department and course levels, with department goals tying directly to the USMMA mission.

Towards the end of 2012, the Academy hired a Director of Institutional Assessment and issued SI 2013-03 mandating a program review process [App. 1-4]. The Director worked with programs outside the AD to develop mission statements, goals, and performance metrics. The Institutional

Effectiveness Council (IEC), discussed at greater length in Chapter 4, completed its first cycle of program review in the fall of 2014, and has prepared a tentative schedule for future program reviews [EDR: Strategic Plan Assessment]. A new Director of Institutional Assessment, the previous having recently departed, will be able to help programs outside the AD to formalize learning goals and metrics to assess the varied, practical, experiential and theoretical maritime leadership education programs already in place at the Academy. Chapters 6-9 all discuss leadership learning at the Academy, both on campus and at sea. Details of programs, goals and assessment criteria are also contained in the above chapters.

Self-Study Outcomes

The Academy's mission is clear but a shared vision by the Academy "team" on how to advance the mission has been a recurring challenge for the Academy, in part because of its varying stakeholders, requirements and identities. A new strategic planning process can use internally generated assessment data to define the USMMA's "brand" of maritime leadership education and to create appropriate "performance measures" by which to assess on a macro-level. The Academy's mission and AD goals are well communicated and defined. Other unit learning goals must be strengthened and assessed, something a more formalized leadership development program requires.

Recommendations

The Academy must develop a strategic planning process that is inclusive of all major stakeholders and led internally by the Academy. The resulting Strategic Plan should:

- Implement strategies based on rigorous analysis of internal institutional assessment data and outcomes while considering the mission statement and strategic goals.
- Incorporate performance measures that are realistic, clear, actionable, and manageable, as well as reasonably accurate and truthful in measuring the Academy's progress in achieving its institutional goals and mission.
- Integrate institutional level learning goals that encompass all aspects of learning occurring throughout the Academy.

Standard 6: Integrity

In the conduct of its programs and activities involving the public and the constituencies it serves, the institution demonstrates adherence to ethical standards and its own stated policies, providing support for academic and intellectual freedom.

Achieving the Mission with Integrity

Since the 2009 Government Accountability Office (GAO) audit, discussed in Chapter 3, the Academy's program integrity has improved significantly [EDR: GAO-09-635]. Since 2009, all hiring complies with U.S. Government personnel rules and regulations; the USMMA community can access MARAD and Academy Policies; and employees take ethics trainings annually – online or on campus. The *2014 Faculty and Staff Survey* notes improvements over the 2004 iteration in "communicating regulations," though numbers are still rather low [App. 1-8 for summary; EDR for full report]. 69% of faculty and staff believe that they are well-informed about regulations governing federal employees and/or the Academy campus while only 50% believe that they are well informed about rules governing midshipmen.

Standards of Conduct

Faculty & Staff

All Academy employees are governed by the "Principles of Ethical Conduct for Government Officers and Employees" which prohibits the solicitation of gifts from outside sources, sets restrictions on gift giving between employees and instills a firm code of government ethics [Executive Orders 12674 and 12731 (EDR)]. In addition, certain positions require that employees complete a financial disclosure form to avoid potential conflicts of interest. Academy personnel receive training every two years on the Notification and Federal Employee Antidiscrimination and Retaliation Act (No FEAR Act) [EDR] which protects against employment discrimination and also shelters whistleblowers.

MARAD oversees and ensures that the Academy complies with federal rules and laws concerning ethics. However, ethics violations are also subject to review or investigation by the DOT, Office of the Inspector General (OIG). In 2010, the Maritime Administration's Office of Chief Counsel assigned the Academy a dedicated counsel who delivers day-to-day legal advice on many issues, including ethics compliance.

Midshipmen

CFR 46 section 310.65 mandates that midshipmen comply with the prescribed disciplinary and honor systems [EDR]. The *Honor Manual* [EDR] defines the honor system and describes the procedures to be followed. SI 2004-08, "Midshipman Honor Code," highlights that it is a de facto institutional level goal, as well as basic requirement of the Academy's mission, to graduate Midshipmen who are individuals of honor and integrity [App. 1-6]. Midshipmen take an oath not to lie, cheat, or steal and must uphold this oath. The Honor Code functions largely as a system of enforcing academic and personal honesty in the barracks and classroom, though the Regiment stresses the positive aspects and definitions of honor. Chapter 8 examines the Regiment and leadership education. Midshipmen receive training and education concerning honor code policies

and procedures throughout their tenure at the Academy, Chapter 1 of the *Midshipman Regulations* addresses ethics and integrity, and the current honor board education officer is developing lesson plans as well as assessments for relevant training [EDR: Honor Board Training Draft].

The *2014 Midshipman Values Survey* noted that midshipmen were unsure whether disciplinary actions taken for those found in violation of the Honor Code are generally fair and appropriate [App. 1-9 for summary; EDR for full report]. Going forward, the Academy should focus on assessing the honor board and honor education, a pivotal aspect of leadership education.

Across the USMMA

The 2009 GAO findings stressed a need to improve and update internal policies, making all accessible in a central location. In November 2012, SI 2012-12, "Development and Revision of Academy Policies and Procedures," established the framework for the development, review, approval and dissemination of policies [App. 2-5]. The overall goal was to have a consistent and coordinated approach to policy formulation, including a formal clearance process and periodic review.

Four levels of policy govern the institution: Maritime Administrative Orders (MAOs), Superintendent's Instructions and Notices (SIs and SNs), Dean's Memoranda (DMs), and Commandant's Instructions and Notices (CIs and CNs), including the *Midshipman Regulations* and *Honor Manual* [EDR].

- MAOs: MARAD issues MAOs to communicate governing policy. MARAD's MAO library can be found on their Intranet. Over the years, the MAO library has been closed to Academy personnel due to system complexities. In March 2015, the MAOs were moved to the Academy's new Intranet (SharePoint). In the future, the entire Academy community should have access to MARAD's Intranet for access to the "live" MAO library and other important resources. Work is on-going to find a solution to allow the Academy access.
- SIs and SNs: SIs convey Academy-wide policies, principles and procedures not specifically addressed in an MAO and pertaining only to the USMMA. SNs transmit directions from the Superintendent about programs. These notes are usually in effect for a specific time period.

  In Fall 2012, the Superintendent directed a working group to review all SIs and SNs. A thorough analysis resulted in the revocation of approximately 70 polices and identified the need to update several policies that had become antiquated. The Risk Management Officer (RMO) now monitors all SIs and SNs and made them accessible via a central shared drive in July 2013. In March 2015, all active SIs and SNs were made accessible on the Intranet.
- DMs: DMs explain academic policies and procedures to faculty and students and are available on the Intranet, along with the *Academic Policies Handbook* [EDR] and *Faculty Handbook* [EDR].
- CIs, CNs and the Midshipman Regulations: CIs identify the Commandant's regimental policies and procedures for midshipmen. CNs detail directions to the Regiment and are usually in effect for a specific period of time. The *Midshipman Regulations* enumerate obligations, standards and responsibilities of midshipmen. Additional guidance is issued through CIs and CNs that at times supplant or replace portions of the *Regulations*. Perhaps not surprisingly, students voice confusion with how to navigate the *Regulations*, citing outdated and/or confounding

references. Students also express consternation with a perceived lack of consistency across companies in how regulations are enforced as well as resentment that all are punished, at times, for the offenses of a few [App. 1-9].

In 2014, the Commandant of Midshipmen conducted a review of Commandant's policies. In December 2014, these policies were made accessible to midshipmen via a central drive located on the Academy's T drive that allows access to midshipmen. Once there is a plan to manage these policies, they will be transferred to the Intranet.

Internal Controls Program

In July 2013, SI 2013-09, "Internal Controls Program," set policy, guidelines and procedures for the Internal Controls Program so that all managers would perform ongoing risk assessment and exercise good internal controls [App. 1-7].

All managers have been identified as Internal Controls Coordinators (ICC) for their programs, with the RMO serving as the Internal Controls Officer (ICO). ICCs meet four times a year to ensure that all internal control issues and inquiries are rapidly addressed; the Internal Control Council (AICC) also meets on a quarterly basis to discuss internal controls activities, to share information and to set a tone for integrity at the highest level of the organization.

Since fiscal year (FY) 2013, the USMMA is required to provide a Statement of Assurance (SoA) to the Maritime Administrator at the end of each FY expressing reasonable assurance that internal controls are operating effectively so as to comply with the Federal Managers Financial Integrity Act (FMFIA). In FY 2013 and FY 2014, the Academy reported that internal controls were operating effectively to accomplish the mission of the institution.

Personnel Management System

As a Federal institution, the USMMA must comply with 5 CFR 250, "Personnel Management in Agencies" [EDR]. MAO 036-001, "Office of Human Resources," requires that the Office be fair and impartial when hiring, evaluating, disciplining, and dismissing employees [EDR]. MAO 750-541, "Performance Management Program," mandates as well as describes employee evaluation [EDR]. Chapter 5 elaborates upon this program in reference to faculty.

When there is the need to discipline or dismiss an employee, the USMMA follows MAO 770-751, "Disciplinary and Adverse Action Policy" which advises employees of their rights and provides a standard approach to such actions to ensure each case is treated fairly [EDR].

MAO 710-181, "Faculty Policies," addresses faculty policies on tenure and promotion [EDR]. MAO 710-182 addresses similar issues for "professional faculty" in the Physical Education and Athletics Department (PE & A) [EDR]. Chapter 5 considers faculty perceptions of these policies.

Grievance System

Faculty & Staff

MAO 770-771, "Administrative Grievance System" explains the procedure by which faculty or staff may register a grievance. Records of filed grievances over the last three and a half years are as show in Table 1-1 [EDR].

Table 1-1 – Summary of Grievances, 2012-2014

Year	Union Grievances	Administrative Grievances
2012	3	3
2013	1	1
2014 *	0	1

*2014 data is through 7/16/14

Midshipmen

Please see Chapter 6 for analysis of student grievance procedures.

Public Relations

The Academy ultimately relies on the integrity of its employees to make sure that Academy information is reported accurately. The Office of External Affairs informs the public of significant Academy activities via the official website. All press releases and web stories are drafted by program experts and cleared with the MARAD Public Affairs Office before they are released, in accordance with MAO 024-001, "Office of Congressional and Public Affairs" [EDR].

Admissions

46 CFR 310.50 governs the nomination, admission and appointment of midshipmen to the USMMA [EDR]. Detailed discussion of Admissions can be found in Chapter 6.

Academic Freedom

The *Faculty Handbook* highlights academic freedom as an important component of Academy policy [EDR]. Faculty and midshipmen may discuss any issue relevant to coursework. The *Faculty Handbook* explains that when faculty speak or write as citizens they are free from institutional censorship or discipline. However, faculty members must convey to audiences that they do not reflect the thinking of MARAD or DOT.

Self-Study Outcomes

Because of the federal regulations governing all aspects of USMMA conduct, the institution engages in a continual process of self-assessment vis-à-vis internal controls and integrity. Staff must take online trainings on subjects related to integrity, the very core of the student honor code. However, the *Midshipman Regulations* governing integrity, among other standards of conduct, need to be more coherent, organized and easily digestible. Enforcement across the companies should be assessed for consistency, as should the operations of the honor board, from an educational as well as integrity standpoint. The Office of Human Resources, governed by federal codes and regulations and reporting to MARAD, could make its processes more transparent Academy-wide, since not all USMMA staff can access the MARAD intranet.

Recommendations

- Revise the *Midshipman Regulations* into one coherent document with a table of contents and accessible, user-friendly sections so that students can easily see, find and understand the regulations they are expected to follow. Engage students from the Regiment in committees to draft material as part of leadership education and as hands-on professional writing exercises. Focus revisions on providing positive examples of leadership, not strictly prescriptions on what to do or not. Rigorously examine and assess the enforcement of regulations across companies in order to ensure fairness and integrity and for the sake of good student morale.
- Provide more accessible, user-friendly documentation, Academy-wide, on how the USMMA Office of Human Resources applies policies and procedures.

CHAPTER 2: LEADERSHIP, GOVERNANCE, AND ADMINISTRATION

Standard 4: Leadership and Governance

The institution's system of governance clearly defines the roles of institutional constituencies in policy development and decision-making. The governance structure includes an active governing body with sufficient autonomy to assure institutional integrity and to fulfill its responsibilities of policy and resource development, consistent with the mission of the institution.

As a federal service academy and a specialized institution of higher education, the USMMA is subject to the influence of a constellation of government agencies, Federal regulations, industry organizations, international conventions, advisory boards, accrediting bodies, and other stakeholders. The Academy's authority to carry out its mission is set forth in law by numerous federal regulations and internal policies that assign and affix responsibility for effective governance and administration.

Stakeholders and their Involvement in Policymaking and Review

- U.S. Department of Transportation (DOT) -- Through MARAD, DOT operates the Academy under the authority of the United States Congress. Key domestic legislation that defines the governance and operation of the Academy includes the Merchant Marine Act of 1936, as amended; the Maritime Academy Act of 1958; and the Maritime Education and Training Act of 1980. This legislation is operationalized primarily through 46 Code of Federal Regulations (CFR) Part 310 and 46 United States Code (USC) Chapter 513 [EDR]. As specified in 49 CFR 1.66 [App. 2-1], the Secretary of Transportation delegates responsibility for carrying out the provisions of the Merchant Marine Act and other legislation concerning the USMMA to the Maritime Administrator. The Maritime Administrator has published a series of MAOs that assign responsibilities and delineate processes for policy development and decision-making at the Academy.
- Academy Staff – MAO 150-001, "U.S. Merchant Marine Academy" defines responsibilities for staff within their various divisions, units, and offices [App. 3-2]. Academic faculty members are charged under MAO 710-181, "Faculty Policies," with "responsibility for the development and conduct of educational courses and programs, research, instruction, and academic counseling of Midshipmen. Faculty members also share departmental and other academic responsibilities" [App. 5-1]. Professional faculty members in PE & A have similar responsibilities in the context of sports and athletic development and are governed by MAO 710-182 "Professional Faculty Policies" [App. 5-2]. The principal avenue for the collection and transmission of collective faculty input on institutional governance is the Faculty Forum, which generally meets monthly during the academic year [EDR: Faculty Forum Charter and Bylaws]. Results of the *2014 Faculty and Staff Survey* are slightly higher than in its previous iteration regarding faculty involvement in the assessment of programs and policies and in institutional review and strategic planning [App. 1-8]. Midshipmen have no direct role in the broader governance of the Academy though the Regimental leadership structure midshipman council systems offer a means for students' voices to be heard, especially within the new initiative to formalize leadership development.
- Congressional Board of Visitors – Established by 46 USC Sec. 51312 [EDR], the Board is to be created at the beginning of each Congress and is charged with visiting the USMMA annually

(on a date determined by the Secretary of Transportation) and with making recommendations concerning the operation of the Academy. [EDR: Current Board of Visitors]. Although the Congressional Board of Visitors was largely dormant for some years, it was successfully reactivated in Spring 2012, and an annual meeting was hosted at the Academy in December 2014. [EDR: BofV Visit].

- Advisory Board – 46 USC Sec. 51313 [EDR] specifies that the Board shall visit the Academy at least once during each AY "for the purpose of examining the course of instruction and management of the Academy and advising the Maritime Administrator and the Superintendent of the Academy." The members of the Advisory Board, appointed by the Secretary of Transportation, recently developed a comprehensive set of recommendations intended to assist the Academy with implementation of its most recent strategic plan [EDR: *Advisory Board Report*]. In July 2014, the Advisory Board briefed the Congressional Board of Visitors on its recent report [App. 2-2].
- International Maritime Organization (IMO) – A unit of the United Nations, the IMO develops international conventions and regulations on maritime safety, security, and environmental protection. Some of these are interpreted and promulgated by the USCG as domestic regulations that govern the education and certification of all American merchant marine officers, including USMMA midshipmen. Several members of the Academy faculty have been actively engaged with the IMO over time, serving on the U.S. delegations to IMO meetings, chairing IMO working groups, developing IMO model training curricula, and otherwise helping to shape and support the international maritime regulatory regime.
- USCG – Collaborating with the Academy frequently on maritime education and training, vessel operations, port operations, and maritime security, the USCG reviews, approves, and audits the Academy's programs of nautical science and marine engineering. Perhaps more than any other stakeholder, the USCG shapes the curricula of the Academy's professional departments through site visits and inspection of facilities, documents, and other program elements, all discussed more in chapter 7.
- Department of Defense – Through the U.S. Navy in particular, the Department of Defense commissions USMMA graduates as military officers. The USMMA curriculum is designed to be compliant with the requirements of the Navy and to support direct commissioning into the Strategic Sealift Officer Program (SSOP) of the U.S. Navy. The Department of Naval Science (DNS) at the Academy is staffed by active duty Navy personnel and exists to build a foundation of knowledge and professionalism about the United States Navy that will enable midshipmen to become successful leaders.
- Maritime Industry – Crucially, industry articulates its needs and wants with respect to the education and training of prospective employees. At times, this is done rather capriciously such as with the requirement imposed in Fall 2013 with no prior notice to provide mandatory upper level security training for all USMMA cadets – midshipmen are "cadets" while at sea – before they join a ship. The industry participates in the federally-mandated cadet shipping or Sea Year program that requires participation by subsidized merchant vessels. Cadet shipping may also involve government vessels and non-subsidized commercial carriers that cooperate with the program. Ocean carriers, offshore supply vessel operators, towing companies, maritime labor unions, and others communicate their expectations and requirements daily and directly to the Academy's Office of Professional Development and Career Services ("Shipboard Training") as,

at any time, nearly one quarter of the entire Regiment serves aboard merchant vessels around the globe. The industry also communicates its needs through participation in government/industry symposia; through formal communications to MARAD and the Academy; through direct interaction with Academy faculty, staff and midshipmen during Sea Year and internships; and through bi-annual "Sea Fairs" held at the USMMA to acquaint midshipmen with the opportunities and requirements of afloat employment in various sectors.

- USMMA Alumni Association and Foundation – Providing substantial financial and other support for midshipmen and the Academy, the Foundation has financed a large number of facility renovations and enhancements through gifts [EDR]. The relationship between the Academy leadership and the Alumni Association has deteriorated over the past few years. A contentious atmosphere characterizes the interactions of the Alumni with the current USMMA and MARAD leadership. This derives in part from the sudden and still unexplained decision by DOT and MARAD to reassign RADM Greene, a USMMA graduate and Superintendent for just over one year until October 2011 (*Professional Mariner* [EDR]). The USMMA Advisory Board has recommended, and the Secretary of Transportation has directed, that MARAD and the Academy prepare a plan to "improve USMMA's alumni relationships, to include strengthening and expanding communications with alumni to share more information about the accomplishments and needs of the Academy" [App. 5-3].
- USMMA Parents' Association – Along with its local chapters, the USMMA Parents' Associations constitute a network of state and regional groups that support USMMA midshipmen and facilitate parent interaction. The Parents' Associations share information and their experience with potential candidates and their parents. Individual associations sponsor meetings and social events for the families of current midshipmen and encourage participation by candidates and their parents.
- Other Foundations – Various other foundations support athletics, the sailing team, and the American Merchant Marine Museum. As a result of the increased scrutiny of Academy financial operations stemming from recent GAO investigations that found significant problems of accountability and lack of internal controls, one subject of Chapter 3, the roles of these entities and the mechanisms through which they provide support are now more precisely defined than in the past [EDR: GAO-09-635].
- Accreditors – Finally, as previously discussed, the USCG validates and reviews the Academy's professional curricula with respect to their congruence with domestic and international standards of licensing and certification. In this sense, the USCG accredits the maritime education and training (MET) programs. The Academy also holds regional accreditation from the Middle States Commission on Higher Education (MSCHE), which periodically reviews the institution's programs of education and training, assessment processes, organizational structure, and other aspects of its operations to ensure compliance with established voluntary standards for accreditation. MSCHE thus has a major impact on the structure, content, and quality of programs and offerings. USMMA curricula and certain academic policies are also influenced by program-level accreditation and approval, such as ABET for engineering and in the case of the logistics program, industry endorsement through the American Society of Transportation and Logistics (AST & L) [EDR: ABET Accreditation].

Leadership Autonomy and Oversight

46 CFR 310.67 states that "The Superintendent of the Academy is delegated authority to issue all regulations necessary for the accomplishment of the Academy's mission" [EDR: 46 CFR 310]. The USMMA Superintendent reports on most matters to the Maritime Administrator.

However, as a result of 2009 GAO audit findings of weak internal controls and mismanagement both MARAD and the Department of Transportation recognized the need for direct engagement in the administration of the Academy [EDR: GAO-09-635]. Key Academy business processes such as Finance, Procurement, and Human Resources that once reported to the Superintendent now report to their respective managers at MARAD headquarters [App. 3-2]. While staff members responsible for these functions are required to coordinate with the Superintendent and the Deputy Superintendent, Academy leadership does not issue a performance plan or provide the final performance rating for these departments. DOT and MARAD have taken direct control of most significant human resources, acquisitions, and financial policy matters. Since 2010, MARAD has stationed a legal counsel onsite, in part to ensure the coordination of Academy legal matters with the MARAD Office of Chief Counsel.

Currently, all aspects of USMMA financial management are the responsibility of the MARAD Assistant Chief Financial Officer for Academy Operations, also referred to as the Academy Chief Financial Officer (ACFO), who reports directly to the MARAD Associate Administrator for Budget and Programs (MARAD CFO). As a result, the Superintendent does not have direct decision-making authority over critically important aspects of USMMA business operations.

In May 2014, the *Advisory Board Report* to Secretary of Transportation Foxx recommended that DOT "restore the Superintendent's discretionary ability to adjust budgeted funds to repair and maintain facilities, equipment, and grounds without multiple approvals" [EDR: *Advisory Board Report*]. It is also important to note that the Senate Committee on Appropriations "directed MARAD to conduct a legal review of existing statutory authorities of the USMMA and identify limitations that impede its ability to operate effectively and efficiently" [EDR: *Senate Report 113-182*].

Issues of academic integrity and the curriculum stand apart as specifically within the domain of the Academic Dean and have historically been less subject to scrutiny and intervention by DOT and MARAD. However, the Secretary of Transportation, in response to the *Advisory Board Report*, issued a directive to MARAD and the Academy [App. 5-3]:

> Conduct a thorough review of the USMMA curriculum with the goal of better integration and balance between the academic, regimental and extra-curricular aspects of the Midshipman experience. The Academy must better leverage both time and staff, and must develop creative ways to meet the requirements for the academic degree, the U.S. Coast Guard Merchant Marine Credential, and the U.S. Armed Forces active duty or reserve commission, while meeting USMMA's mission of graduating leaders of exemplary character to serve the Nation.

Further, the USMMA Congressional Board of Visitors wrote a July 2014 letter to the then Acting Maritime Administrator requesting that the Board be included in discussions between MARAD and the Academy concerning prospective revision of the curriculum [EDR: BofV Letter].

In fact, the Academy is already in the midst of implementing a new curriculum that went into effect in July 2013 after a four-year long comprehensive review of the academic program, detailed in Chapter 4.

Engagement and Communication

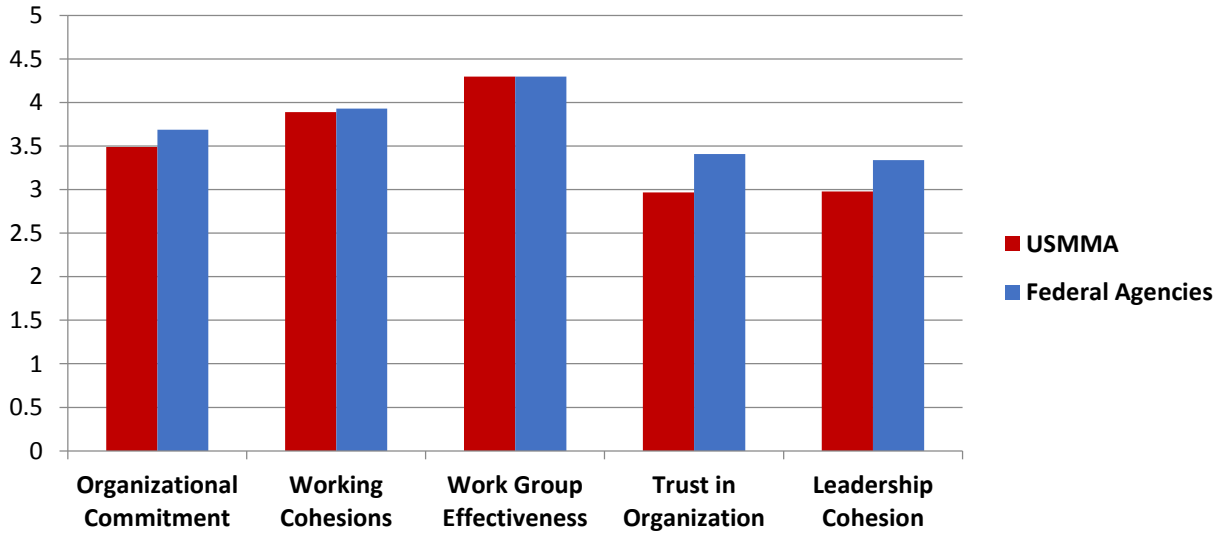
Recent survey responses suggest that faculty and staff members regard communications as effective in ensuring the conduct of the Academy's daily business (88% agreeing). Faculty and staff hold the view that communications are reasonably effective in helping improve the academic program (84% agreeing) [App. 1-8]. However, midshipmen, faculty, and staff express the opinion that the level and quality of communications about challenges facing the Academy are less than adequate. While 64% of midshipmen felt that problems were openly confronted and solved at the USMMA in 2004, only 51% agree that this is the case in 2014 [App. 1-9].

The *USMMA Strategic Plan* calls for strengthening ongoing communications with stakeholders. According to surveys conducted in 2014, many faculty, staff, and midshipmen believe that the USMMA leadership could and should be more directly engaged with those on the "front lines." With due recognition of the fact that the Kings Point is a federal service academy and a quasi-military organization, more frequent, informal interactions between the senior leadership and other Academy personnel would reduce the impression of "top-down" governance.

Collegiality, Cooperation, and Morale

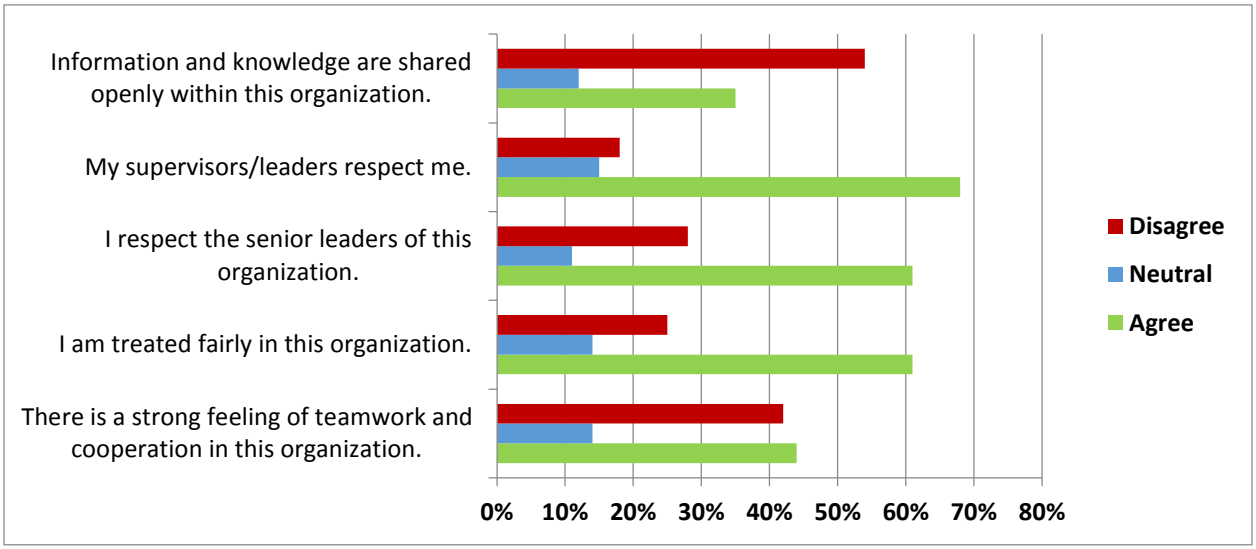
In September 2014, a *Federal Organizational Climate Survey* was administered to the Academy's faculty and staff [EDR]. One section of the survey measured several factors relating to organizational effectiveness. As shown in Figure 2-1, USMMA ratings are positive and comparable to other federal agencies in the categories of "Organizational Commitment," "Working Cohesions" and "Work Group Effectiveness." However, in "Trust in Organization" and "Leadership Cohesion," ratings are lagging and significantly lower than those of other federal agencies.

Figure 2-1 – Federal Organizational Climate Survey (select questions)



The survey also included locally developed questions displayed in Figure 2-2.

Figure 2-2 – Federal Organizational Climate Survey (locally developed questions)



The survey demonstrated strengths in perception of treatment, and mutual respect, between senior leaders and subordinates. The opinion on cooperation and teamwork was weak with an even split agreeing and disagreeing. A significant weakness is that more than 50% disagreed that information and knowledge are shared openly within the organization. It should be noted that the qualitative comments of the Climate Survey were not released by the Superintendent's Office and hence are not included in this analysis.

Faculty and staff survey responses suggest that the Academy is perceived as a somewhat collegial place to work. Faculty and staff have a lower opinion of the Academy's fostering of collegiality; this score has declined modestly, though not significantly, between 2005 and 2014 [App. 1-8].

Midshipmen have a generally favorable view of cooperation within the Regiment; the survey score on this item improved somewhat between 2004 and 2014. Midshipmen are of the opinion that cooperation between faculty and midshipmen is good, whereas, between staff and midshipmen, it is less impressive or needs improvement. [App. 1-9].

As noted in the *2011 USMMA Periodic Review Report* [EDR: PRR 2011], faculty morale has been a problem for some time at the USMMA. Since September 2008, there have been four Academy Superintendents, with the Academic Dean serving as Interim Superintendent during each interval between Superintendent appointments. The *2014 Faculty and Staff Survey* results suggest that the frequent turnover in Academy leadership has had an adverse impact on faculty morale [App. 1-8].

The Academy seems to have made little progress in promoting an atmosphere of collegiality, cooperation, and high morale over the past ten years. This can likely be attributed to multiple disruptive transitions in leadership, serious resource constraints, and the revocation of institutional autonomy in several key areas. Collegiality and cooperation as they exist at the Academy are likely driven more by recognition of the need to accomplish the mission than by coordination and encouragement from the Administration.

The *USMMA Strategic Plan* called for "a strong sense of collegiality, institutional ambition, engagement, and high morale among faculty, staff, and midshipmen." While the Strategic Plan provides some guidance to faculty, staff, and midshipmen, its goals and objectives have yet to be achieved.

Self-Study Outcomes

The Academy has an unusually broad range of stakeholder groups that have varying degrees of involvement in institutional policymaking and review. The Academy's programs are reviewed and approved by multiple governmental, academic, and industry entities, ensuring a high level of quality control.

Findings requiring attention include the observations that the relationship between the Academy and its Alumni Association is dysfunctional and must be improved; that the Superintendent does not have authority over key elements of USMMA business operations; and that collegiality, cooperation, and morale have been negatively impacted by multiple disruptive transitions in leadership, resource constraints, and senior level micromanagement.

Recommendations

- Regain institutional authority for oversight of human resources, legal affairs, and financial management by continuing to vigorously comply with DOT and MARAD directives in order to restore confidence in the Academy's ability to operate effectively and efficiently as a semi-autonomous educational institution.
- Develop a shared vision of the institution's future and promote an atmosphere of collegiality, cooperation, and high morale by regularly engaging with small groups to address challenges and by increasing personal interactions with faculty, staff, and midshipmen.
- Carefully and systematically evaluate and revise the Academy's governance structure in order to promote transparency and collaborative decision-making.

Standard 5: Administration

The institution's administrative structure and services facilitate learning and research/scholarship, foster quality improvement, and support the institution's organization and governance.

Selection and Qualifications of Leaders and Senior Administrators

All federal jobs are guided by the Merit System Principles (5 USC 2301) and Prohibited Personnel Practices (5 USC 2302) [EDR]. When a vacancy occurs in a leadership or senior administrator position at the Academy, the immediate supervisor in coordination with a classifier prepares a comprehensive job description. The HR Supervisor assembles a selection committee which includes a subject matter expert, an HR specialist, a Senior Executive Service member, and stakeholders.

According to the Academy HR Supervisor, the Superintendent and the Deputy Superintendent should be capable of managing a large academic institution. Their job descriptions stress leadership and management and are written to cast the widest possible net to find strong and well-qualified candidates. There are no requirements for personal knowledge of, or experience in, the U.S. Merchant Marine [EDR: Position Description Superintendent]. The HR Supervisor states that the Dean should be very familiar with, and experienced in, the academic world. The Commandant should, according to the HR Supervisor, be a career military officer, as he/she is the equivalent of a Dean of Students and is in charge of the Regiment but, again, it is not considered necessary by MARAD that any of these critical positions be filled by personnel possessing hands-on experience in the maritime industry [EDR: Interview with HR Supervisor].

Many licensed faculty and staff members hold the view that key Academy leaders should have merchant marine experience and be conversant with the needs and realities of the industry served by this institution. With the sole exception of the Academic Dean, who is a licensed ship's Master, the Academy's current senior leadership team has no members with seagoing or shore-side management experience in the merchant marine. The vast array of maritime experience that exists at all levels of the Academy, however, provides a powerful impetus and many chances to share and pool expertise, as well as knowledge, in order to best achieve the Academy's mission.

Organizational Structure and Operating Procedures

A broad range of documents define the institution's organizational structure and operations. These include the laws and regulations issued by Congress, MAOs issued by the Maritime Administrator, Academic Policies Handbooks, and other policy statements prepared at the institutional level.

The Academy's organizational structure and the functions of those who occupy positions within it are articulated by MAO 150-001 [App. 2-3]. MAO 150-001 also defines relationships between certain USMMA units and other organizational components of MARAD. Since 1998, MAO 150-001 has been revised and amended multiple times. In some cases, such as the creation of the Sexual Assault Response Coordinator (SARC) position, the changes delineated in the document are constructive enhancements to the organizational structure. In other cases, positions have been created, eliminated, and subsequently reinstated, such as those of the Chief of Staff and Deputy

Superintendent. A summary of the history of MAO 150-001 suggests organizational instability and a lack of clarity regarding the appropriate locus of many administrative responsibilities [App. 2-4].

A number of new policy statements and guidance documents have recently been created to clarify organizational structure, responsibilities, and operating procedures. One such example is SI 2012-12 on the development and revision of Academy policies and procedures [App. 2-5].

One organizational change worthy of note concerns administrative responsibilities that have traditionally fallen under the Administrative Division, currently overseen by the Deputy Superintendent. In January 2013, SN 2013-01, "Temporary Alignment of Administrative Services Positions," was issued and is in effect until official revocation [EDR]. SN 2013-01 reassigned many administrative positions to the Commandant's Office, including the mailroom staff, laborers, and most recently, oversight of the Admissions' Office. Accordingly, the Commandant's Office has been managing such campus-wide administrative services as the janitorial and pest control contracts and trash collection, among many others. Historically, these were managed by the Director of Administrative Services, a position that has remained vacant for four years. The Commandant's Office assuming managerial burdens outside its scope of expertise can ultimately result in significant internal control challenges. In addition, it distracts the Office from its mission-critical Regimental program and leadership development responsibilities. It is vital that the Commandant's Division not be overburdened with the sorts of administrative responsibilities best managed by a dedicated director as was done in the past.

Administrative Decision-Making

The Superintendent's Management Council (SMC), created in December 2012, is the primary body that deliberates and decides on high-level issues affecting the management and operation of the institution. The SMC is composed of the 1) Superintendent, 2) Deputy Superintendent, 3) Academic Dean, 4) Commandant of Midshipmen, 5) Civil Rights Director, 6) Admissions Director, 7) Public Affairs Director, 8) Risk Management Officer, 9) ACFO 10) Athletics Director, 11) Counsel to the Academy, 12) SARC and 13) the MARAD Academy Liaison. It should be noted that there is no official charter establishing the SMC, defining its composition, or outlining the procedures to be followed in its conduct of business.

High-level resource management decisions of the SMC are further supplemented by the work and expertise of other internal working groups and committees, such as the Financial Working Group (FWG) and the Infrastructure Planning Committee (IPC), each discussed further in Chapter 3. The FWG, created in March 2014 by SI 2014-03, coordinates budgetary resource requirements Academy-wide and makes recommendations to the SMC [App. 3-2]. The IPC, created in January 2015 by SI 2015-02 provides oversight, planning, coordination, and collaboration on all construction and repair projects [App. 2-6].

Another key body responsible for managing a broad range of day-to-day activities is the Deputy Superintendent's Management Council. Chaired by the Deputy Superintendent, this Council consists of representatives from the various offices within the Administrative Division, as noted in MAO 150-001, and also includes a representative from the Academic Division and the Commandant's Office. The council meets on weekly basis.

All academic-related matters have historically fallen under the purview of the Academic Dean, who convenes an Academic Board (A-Board) established by SI 2014-06 to discuss and recommend academic policy and standards; review on-going curricular improvements; and approve new and amended courses [App. 2-7]. Members of the Academic Board include the academic department heads (DHs), Commandant, Faculty Forum President, Director of the Waterfront, Director of Information Technology, and Director of the Academic Center for Excellence (ACE). In preparation for the A-Board deliberations, the Dean holds regular meetings with the DHs and other direct reports. As previously noted, DOT and MARAD have recently demonstrated an intention to engage in academic affairs, thus potentially reducing institutional autonomy in curricular decision-making.

Internal Controls and Accountability

Strengthening internal management controls within the Academy has been a recent noteworthy accomplishment. In 2009, the GAO found that there was ". . . a lack of awareness or support for strong internal controls and accountability across the Academy at all levels and risks, such as those that flow from a lack of clear organizational roles and responsibilities and from significant activities with affiliated organizations" [EDR: GAO-09-635]. In June 2012, the Academy created the position of Risk Management Officer who also serves as the Academy's Internal Controls Officer [App. 2-8]. Chapter 1 contains additional information on "Internal Controls."

Customer-Service Orientation of Administrative Support Services

A number of institutional administrative support functions exist at the Academy. These include the Office of Information Technology, the Office of Procurement, the Office of Public Works, Budget & Accounts, and the Office of Human Resources. The *2014 Faculty and Staff Survey* illuminates the views of faculty and staff regarding their satisfaction with these services. The survey results suggest that faculty and staff do not feel that they are being adequately supported by the Office of Human Resources, the Office of Public Works, Budget & Accounts, or the Office of Procurement [App. 2-9].

Recruiting, Hiring, Orientation, Training, and Performance Evaluation of Personnel

The recruiting, hiring, orientation, training, and performance evaluation of USMMA personnel take place within a framework of generally well-defined federal policies and procedures. Clearly articulated recruitment and selection guidelines, detailed retention and promotion standards, federal regulations concerning hiring criteria, and a formal Performance Management System (PMS) are representative examples of these. However, the recruiting and hiring process as it functions at the Academy is not well documented. The Office of Human Resources could create and distribute a recruiting and hiring timeline/mapping document that would make it clear to DHs and other administrative personnel what to expect in seeking to fill a vacancy, an action in keeping with efforts, described in Chapter 1, to render policies and procedures Academy-wide more transparent. Chapter 3 contains further information on the Office of Human Resources.

As previously noted, USMMA personnel actions are handled by MARAD via the HR Supervisor, who reports to the MARAD Office of Human Resources. As a consequence, the recruiting and hiring of new personnel at the USMMA require excessively long lead time and the navigation of complex bureaucratic hurdles. The resulting delays in filling critical vacant positions create major operational impediments for the USMMA, which operates 11½ months a year to fulfill its federal

mandate. There is a dire need to provide greater flexibility to address such contingencies as sudden resignations, illnesses, and other workforce disruptions. The lack of institutional autonomy in its recruiting and hiring process is problematic in this and other respects.

Self-Study Outcomes

Positive findings concerning Standard 5 include the fact that the Academy has recently made major strides in developing and disseminating policy and procedures documents. Also, important progress has been made in addressing internal control challenges with the creation of the position of Risk Management Officer and the implementation of a formal Internal Controls Program.

Findings of concern include the conclusion that documents describing the USMMA administrative structure show frequent and sometimes seemingly arbitrary reorganization and reassignment of administrative responsibilities to units and personnel that are neither qualified nor prepared to assume them. It was noted that the Superintendent's Management Council operates without benefit of documents delineating Standard Operating Procedures. It was also observed that the recruiting and hiring process for Academy personnel is uniquely cumbersome even by Federal standards, not well-documented, and not under the direct control of the institution. Finally, it is a serious concern that experience in the industry served by the institution is generally not a factor in the selection of Academy leaders and senior administrators.

Recommendations

- Establish and disseminate an SI defining the function, membership, and operating procedures of the Superintendent's Management Council.
- Create a mechanism to ensure that the position descriptions for Academy personnel (as appropriate) are conceived, written, and reviewed by individuals with experience in the maritime industry who are knowledgeable of the conditions and requirements that are current at the time of recruiting.
- Conduct a thorough and systematic review of the Academy's administrative structure with particular reference to the need for increased efficiency and the large number of responsibilities that have been shifted to the Commandant's Office; the Commandant should play a pivotal role in the redesigned leadership education program and vast administrative responsibilities are likely to impair the focus it requires.
- Develop a timeline/mapping document describing the USMMA recruiting/hiring process from end-to-end, identifying the roles and responsibilities of all parties involved, and providing metrics for use in assessing and improving the process.
- Seek to streamline the hiring of faculty and staff and to provide the flexibility needed to deal effectively with resignations, illnesses, and other human resource disruptions that impact this institution of specialized learning that operates on a year-round basis.

CHAPTER 3: PLANNING, RESOURCES & INSTITUTIONAL RENEWAL

Standard 2: Planning, Resource Allocation, and Institutional Renewal

An institution conducts ongoing planning and resource allocation based on its mission and goals, develops objectives to achieve them, and utilizes the results of its assessment activities for institutional renewal. Implementation and subsequent evaluation of the success of the strategic plan and resource allocation support the development and change necessary to improve and to maintain institutional quality.

Background

USMMA follows the federal budget process model as detailed in the President's Office of Management and Budget (OMB) Circular A-11 [EDR]. The circular has the same expectations as MSCHE when it comes to resource planning, allocation and institutional renewal.

Since the last Self-Study, the Academy has undergone two audits, the first in 2009 and the second in 2011, by the Government Accountability Office (GAO). These audits were conducted at the request of Congress which had identified weaknesses in the institution's financial operations as well as in its hiring practices. In August 2009, GAO issued a report, *United States Merchant Marine Academy – Internal Control Weaknesses Resulted in Improper Sources and Uses of Funds; Some Corrective Actions Are Underway* (GAO-09-635) [EDR]. The report determined that the Academy had entered into inappropriate financial transactions, some of which violated the Anti-Deficiency Act (ADA). These violations were reported to Congress [App. 3-1]. As a result of these findings, MARAD substantially increased its oversight of the Academy's programs and policies. Today, all of the Academy's key business processes – Finance, Human Resources and Procurement – report directly to MARAD.

In July 2012, GAO published the results of its second audit, *United States Merchant Marine Academy – Additional Actions Needed to Establish Effective Internal Control* (GAO-12-369) [EDR]. All recommendations have been acted upon and closed, with the exception of one related to the Capital Improvement Program (CIP). In that recommendation, GAO asked MARAD and the Academy to develop and maintain a current comprehensive plan to align long-range capital improvements with strategic objectives; calculate reliable cost estimates; and prioritize investments for CIP needs. The CIP Senior Advisory Board and Working Group, now in place, has written an action plan, updated its status, and compiled an annual CIP report [EDR: Capital Improvements Implementations Plan, CIP Annual Report]. The Academy is now awaiting confirmation that this remaining recommendation has been closed.

The *2011 Periodic Review Report* (*PRR*) underlined how much of the Academy's energy was consumed by responding to the GAO reports [EDR]. These reports led to sudden, and unsettling, changes in leadership, and transformed the way the Academy does business, for good and for ill. Since the *PRR*, the Academy's financial management activities have become more routine now that corrective actions have been taken. This closure should help the Finance Office focus on its core mission.

Resource Management and Administration

The Academy's Chief Financial Officer (ACFO) administers all aspects of the Academy's resource management. Information Technology and Capital Improvement departments report directly to the Deputy Superintendent and coordinate with their respective entities within MARAD. MARAD issues and rates individual performance plans for employees in the three core business processes Finance, Human Resources and Procurement [App. 2-3].

Strategic Planning

The *USMMA Strategic Plan 2012-2017* was formally adopted in July 2012 [App. 1-1]. However, little evidence could be uncovered of a planning approach Academy-wide to develop unit goals and objectives in order to achieve the five strategic goals. MARAD's FY 2015 Budget Request and FY 2016 Budget Request to Congress mention the Academy's strategic plan but do not align future resources with the achievement of the institution's five strategic goals [EDR]. Chapter 1 further discusses the development and execution of the *USMMA Strategic Plan 2012-2017*.

Resource Planning

Overall, the Federal Government has a coordinated, systematic and sustained approach to budget planning. Budget formulation takes place almost two years before a FY is set to begin. Every year, federal departments await OMB budget guidance to officially begin formulation. However, many federal entities plan proactively even before the official OMB guidance arrives.

Since 2008, the Academy has improved its internal budgeting practices. In 2010, for the FY 2012 budget development, the ACFO began working on the budget approximately 18 months before the fiscal year began. This lead time allowed USMMA staff to devise budgets within their departments or divisions and to make their final recommendations to the Superintendent for his decision making and forwarding the request to MARAD. However, in the years since, this pattern has proven inconsistent, with no apparent established cycle or communicated process for budget formulation. The USMMA has now established a Financial Working Group to ensure that, in the future, standard processes are in place to coordinate resource requirements and to make recommendations to the SMC [App. 3-2].

Resource Allocation

In the arena of resource allocation the Academy has made significant strides over the last several years. In FY 2009, the institution developed its first Financial or Spend Plan that reflected the final allocation of the Academy's resources based on budget requests to Congress and on the actual budget numbers enacted by Congress. Every year since that time, the ACFO, in coordination with division managers and with the final approval of the Superintendent, has developed a Spend Plan. Without financial management standard operating procedures in place, however, a routine process for the Academy's annual Spend Plan development remains elusive.

Once the Academy's Spend Plan is finalized, it requires the extra step of receiving the approval of the Secretary of Transportation. Once the Secretary of Transportation approves the Spend Plan, it has to be transmitted to Congress. These additional approvals outside of MARAD are required in the annual appropriations act, which directs that 50 % of the Academy's resources be withheld until it is approved by the Secretary and transmitted to Congress [EDR: HR 113-464]. Thus, while

the Spend Plan is a positive step for the Academy in improving accountability, it has significantly delayed the release of annual Academy funds by up to five months from when Congress passes the final appropriation for the federal government. No other entity in the DOT or MARAD is subject to such a degree of scrutiny in order to obtain its funding. Compounding the challenges, in the past few years, MARAD has taken several months to actually provide the remaining 50% balance of the Academy's funding even after the plan has been approved by the Secretary and transmitted to Congress. The end of March marks the mid-way point of the federal government's FY; the remaining 50% of USMMA's annual funding has often been provided after more than 50% of the fiscal year has lapsed. Funding related to facilities, capital improvement and alumni or gift contributions has also been subject to significant allotment delays, resulting in the late delivery of these amounts as well. Table 3-1 gives a snapshot by FY: when were funds approved by Congress; when was the remaining 50% of funding actually received by the Academy.

Table 3-1 - Academy Operations Appropriation and Funds Allotment History (Annual Funds)

Fiscal Year	Full Year Appropriation Passed by Congress	USMMA Allotments (delivering remaining 50% of funding)
2009	3/11/2009	4/3/2009
2010	12/16/2009	4/5/2010
2011	4/15/2011	5/18/2011
2012	12/23/2011	4/18/2012
2013	3/26/2013	4/12/2013
2014	1/17/2014	4/7/2014
2015	12/16/2014	5/7/2014

Finally, once it is approved, the Spend Plan must be disbursed to Academy management to ensure that they are aware of the final financial allocations. For FY 2014 and FY 2015, however, the Spend Plan was not formally distributed to Academy management, making it very difficult for the managers to grasp their budget allocations.

Institutional Renewal

Since the *PRR*, the Academy has been the beneficiary of budgetary increases that have significantly contributed to major institutional renewal. These budgetary increases are in part attributable to the corrective measures implemented in response to the GAO audits. The Academy has also become a better advocate for its programs and needs to MARAD since 2008. Table 3-2 provides the history of the Academy's annual operations budget from FY 2009 to the present:

Table 3-2 - USMMA Historical Crosswalk
Financial Plan Budgets from FY 2009 to FY 2016
(in thousands)

	FY 2009 Enacted	FY 2010 Enacted	FY 2011 Enacted	FY 2012 Enacted	FY 2013 Enacted	FY 2014 Enacted	FY 2015 Enacted New Budget Structure		FY 2016 Request
Pay & Benefits	28,823	31,677	32,275	33,783	33,191	34,000	**Pay & Benefits**	34,390	35,000
Instructional Program	2,950	3,765	3,565	3,881	2,651	3,421	**Academic Dean**	4,014	7,500
Midshipman Program	7,695	8,360	8,609	9,502	9,921	10,017	**Commandant**	10,057	12,600
PD&A	5,315	5,588	5,427	7,921	7,136	9,040	**Sup/Dep Sup**	15,689	16,206
MROR/COR	8,425	9,667	9,063	7,181	7,187	7,022			
CIP	8,150	15,000	14,970	17,000	16,111	12,000	**CIP**	12,000	20,000
Midshipmen Fee Refunds	...	...	5,988	...	...	...			
Facilities M&R	...	...	...	5,900	5,591	4,000	**FMRE**	3,000	4,722
Totals	61,358	74,057	79,897	85,168	81,788	79,500		79,150	96,028

The Academy's annual operating budgets have improved; but, institutional renewal can also be demonstrated through progress made in capital improvement projects, discussed later under Institutional Resources.

Self-Study Outcomes

Over the years the Academy has improved its financial planning activities but further improvements are required in order to formalize the resource planning and allocation processes. With more stable leadership and a Financial Working Group under the direction of the ACFO, the Academy is now in a good position to develop a disciplined, coordinated, and systematic process.

Currently, there are no clear linkages between the Academy's budget requests and Spend Plans and the strategic goals and objectives of *USMMA Strategic Plan 2012-2017*. Future budget requests should be strategically aligned with the next Strategic Plan to ensure the Academy's strategic goals are achieved.

As the Academy has recently made steps in improving communications and creating a more collective voice in planning and resource allocation, the following practices should be continued:

- Ensure the Financial Working Group oversees and communicates the internal decision making process for resource planning and allocation.
- Use Academy-wide program assessment results to make informed planning and resource allocation decisions.

Recommendations

- Prepare and promulgate an SI that addresses the Academy's internal practices related to financial planning and development. The SI should detail budget timelines and milestones for the development of budget requests and the annual Spend Plan. Such articulation should pave the path toward transparency in the budgeting process, and more effective institutional engagement and awareness.

Standard 3: Institutional Resources

The human, financial, technical, physical facilities, and other resources necessary to achieve and institution's mission and goals are available and accessible. In the context of the institution's mission, the effective and efficient uses of the institution's resources are analyzed as part of ongoing outcomes assessment.

Financial Resources

As previously delineated, the ACFO reports directly to the MARAD CFO who ultimately oversees the Academy's resources. While the MARAD CFO works closely with the Superintendent to execute the Academy's financial plan, the Superintendent is still limited in his direct ability to set and fund strategic priorities. On the positive side, however, despite the austere federal budget climate, the Academy has been fortunate in the funding it has received. Much funding resulted from the need to correct past practices, to increase internal controls and to improve the physical plant/facilities infrastructure.

The Academy is subject to all federal budgeting actions, such as continuing resolutions, sequestration and closures resulting from a lapse in appropriations. For example, in October 2013, the Academy was shutdown and classes were not held for three weeks due to the government-wide shutdown. Despite the shutdown, the Academy developed a plan to address the classes lost during the appropriations lapse. Legislation was introduced to keep the Academy open for classes should there be a repetition. However, it was unsuccessful.

As already analyzed, the annual appropriations bill requires that the Academy must receive approval for its Spend Plan from the Secretary of Transportation and from Congress. Once the Secretary approves, it is transmitted to Congress for release of the remaining 50% of Academy funding. Due to continuing resolutions and internal approvals, it is often not transmitted to Congress until the third quarter of the fiscal year. In recent years, funding has been held up even more after the plan's transmittal to Congress because of delayed allotments. For example, for FY 2014, the full year's budget for the federal government was appropriated in January 2014. The Academy did not receive its funds until mid-April. The FY 2015 budget was appropriated by Congress in December 2014 but the FY 2015 Spend Plan was not approved and transmitted to Congress until May 1, 2015. These delays have a significant negative impact on the institution's ability to effectively execute the Spend Plan, especially when compounded by the fact that federal acquisition deadlines begin as early as July each year, approximately two months after funds have been made available, and three months before the close of the federal FY (See Table 3-1).

Human Resources

The Office of Human Resources (HR), in compliance with government rules and regulations, provides all personnel services for the Academy. As already stated, the HR Supervisor and staff report directly to MARAD with a concurrent reporting relationship to the Deputy Superintendent. The Academy's human resource needs differ from those of MARAD, DOT, and much of the government. It is important that the HR office be familiar with the Academy's particular requirements in order to ensure the most skilled professionals are hired for all Academy positions, particularly, the faculty.

Self-Study interviews with the Academy faculty revealed several areas of concern related to hiring. Supervisors and administrative heads have also conveyed problems with hiring and attracting skilled personnel [EDR: Interviews – Resource Planning]. One concern that emerged in interviews is that the Academy is not offering the compensation levels necessary to hire those best qualified for key faculty positions, especially those in the Marine Transportation and Marine Engineering departments. The inability to offer better compensation levels in job announcements may not attract the most skilled in these fields. In addition, the hiring of faculty (and other positions that require a specific skillset) should include subject matter experts in the rating and ranking of applicants. It has been brought to many DHs' attention that potentially well-qualified applicants are not appearing on the certified list of applicants provided to the selecting officials.

The Academy maintains a *Recruitment and Hiring Prioritization Report* that is reviewed and prioritized by the Deputy Superintendent, HR Supervisor and the ACFO. The SMC acknowledged that they and other management bodies should review this list. In an effort to develop a more strategic and transparent approach to workforce planning and human capital management, the Superintendent's and Deputy Superintendent's Management Council meetings have both focused on hiring prioritization.

Information Technology (IT) Resources

The IT Department is run by three federal employees and also by IT contract support. Since 2012, the MARAD Chief Information Officer (CIO) serves as the Academy's CIO though in May 2015, another senior federal employee was added to the IT staff. The Academy's technological resources fall into three areas: personal computers, network devices, and simulation systems. Accordingly, the IT support structure is organized into three independent units: personal computers/networks, classroom technology, and simulation systems. All of the Academy networks and devices are required to be in compliance with federal rules and regulations.

Even though the Academy's IT budget has grown significantly since 2008, the current funding levels are not enough to keep pace with both federal IT requirements and the educational needs of the institution. Midshipman IT needs are the priority of the department, with employee needs coming second. The IT Director has opined that the USMMA systems are mediocre at best [EDR: Interviews – Resource Planning, IT Director Interview].

The Academy's vision, goals, and strategies for addressing IT are incorporated in MARAD's *IT Strategic Plan* [EDR]. While the *USMMA Strategic Plan 2012-2017* has a goal related to first class infrastructure, no comprehensive IT plan or strategy is in place to address evolving new requirements [App. 1-1]. Improvements to performance or services would require an in depth look, planning and additional funding, which recent budget allocations have not provided. The institution currently has an equipment refreshment cycle goal of every five years for personal computers and network devices. Depending on the state of the IT budget, equipment may not actually get replaced until it has become obsolete.

The Academy simulation systems are managed by IT, MT and ME. Program managers have drafted multiple simulator plans, the most recent and also the most comprehensive being the August 2012 *Simulator Plan* [EDR]. Simulators are used extensively in all academic majors and comprise a total of 30 days of sea-time for the two MT majors. The expenses associated with these simulators are

vast, with the Academy paying close to $200,000 annually for maintenance contracts alone. The FY Spend Plans do not designate funding for upgrades of simulation equipment, which requires regular attention and should be on a routine replacement cycle. However, the FY 2016 President's Budget requests include dedicated funds for simulators which, if approved, will vastly enhance the quality and capability of the USMMA simulators [EDR].

Physical Facilities

The Academy's physical facilities have been a central focus of MARAD and Congress. Former Secretary of Transportation LaHood passionately communicated his desire to restore the USMMA to its status as "national jewel." In 2010, he directed MARAD to convene an independent "Blue Ribbon" Advisory Panel (BRP) of senior government executives to "put a fresh set of eyes" on the Academy's Capital Improvement Plan and its investment priorities. The Secretary directed the BRP to review the overall state of USMMA facilities and to provide advice on the priority and efficacy of projects that should be undertaken. The *2010 BRP Report* [EDR] remains relevant even today, and serves as a solid foundation upon which subsequent Five Year Plans have been built and updated annually.

In February 2012, the Office of the Secretary of Transportation established a USMMA CIP Senior Advisory Council to monitor progress on USMMA CIP projects. The work of the Senior Advisory Council is supported by the CIP Working Group, which brings together MARAD and USMMA staff along with staff from the budget, legal, and management offices in the Office of the Secretary, to regularly discuss and monitor the progress of USMMA's CIP projects. A tracking system was developed for all ongoing projects and the CIP Working Group meets monthly to review the status of and current issues affecting all CIP projects. As the most recent *CIP Annual Report* explains, "The work of the USMMA CIP Senior Advisory Council and the CIP Working Group has helped to ensure that USMMA CIP projects stay on track" [EDR: *CIP Annual Report*].

The Academy has made significant progress with capital improvements over the past few years. The renovation of dormitory spaces is now complete, with focus shifting to academic spaces. The Academy has completed work on Mallory Pier; Rogers and Cleveland Hall dormitories; and Delano Dining Hall, also discussed in "Student Support Services." Ahead lie planned renovations of Samuels Hall academic space, design and construction of Crowninshield Pier, and other substantial improvements that reflect institutional renewal [EDR: *CIP Annual Report*].

The BRP Report also touched upon the institution's critical need for additional Maintenance and Repair (M&R) resources (funding and personnel) to take care of deferred maintenance and deteriorating infrastructure. Since FY 2009, the Academy's annual M&R budget has risen from $1.1 million to close to $5 million today. M&R activities are critical to maintaining infrastructure investments as well as to maintaining a safe environment for midshipmen, faculty and staff. The daily activities of the M&R department are evident campus-wide through such activities as daily grounds upkeep, heating and cooling system maintenance, and response to urgent and routine calls for repairs. While the M&R funding has increased since the *BRP Report*, the department's personnel resources have not improved. In fact, the M&R department currently has fewer personnel on board than at the time of the report [EDR: Program Review Office of Facility Management]. The BRP considered the Academy to have insufficient staffing for the size and condition of the physical plant at that time. Finally, it is important that the Academy's Capital

Improvement and M&R teams work closely together to ensure that their projects complement each other and do not duplicate efforts. Likewise, the senior leadership's role in coordinating these efforts is vital so that institutional resources to improve campus infrastructure are allocated and expended strategically to obtain optimal outcomes.

Self-Study Outcomes

Currently, all the Academy's key business processes – Finance, HR, and Procurement – do not have a direct line of reporting to the Superintendent. While policy guidance and expertise are required from MARAD and the current lines of reporting do enable the Academy to meet its mission, more direct authority should be granted the Superintendent to determine strategic priorities and allocate resources.

Much progress has been made in capital improvements due to efforts in planning and increased financial resources. The USMMA should develop an internal plan for IT with viable goals, calling for dedicated funding to address the ever changing requirements in this area for an institution of higher education. The USMMA could also develop a similar plan for Human Resources, where specialized expertise is required to educate, mentor, and guide students; maintain facilities; and provide the requisite services across the Academy to meet the strategic goals.

Positive gains have been made in regaining the trust and confidence of MARAD, DOT, and Congress. The Academy should continue to strengthen communications and collaboration with MARAD and DOT in order to improve the timing of Academy financial plans and allotments for annual operating funds, capital improvement funds, gift and bequest funds, etc.

Recommendations

- Design a plan that addresses current and future requirements for upgrading and maintaining educational computing needs. Articulate a compelling case for the annual allocation of dedicated funds for educational computing critical to midshipman education and training.
- Establish a robust assessment process to gauge effective and efficient use of institutional resources.
- Make the hiring process more transparent by educating and involving faculty and staff in the process.

CHAPTER 4: INSTITUTIONAL ASSESSMENT

Standard 7: Institutional Assessment

The institution has developed and implemented an assessment process that evaluates its overall effectiveness in achieving its mission and goals and its compliance with accreditation standards.

In the years since the 2011 Periodic Review, the Academy has implemented several changes to enhance institutional assessment. Most importantly, an Institutional Effectiveness Council was created "whose purpose is to review and document improvements in overall institutional well-being in the support of student learning" [App. 1-4]. Also, a Director of Institutional Assessment was hired in 2012 to coordinate program reviews, administer surveys, and interpret data in order to improve overall effectiveness. These actions clearly demonstrate the Academy's progress in using assessment both for reporting purposes and to achieve program and institutional goals.

As a federal institution, the Academy's mission "directly contributes to national defense and homeland security and supports its economic competitiveness by contributing to a viable and dynamic merchant marine workforce." [App. 4-4] Thus, much scrutiny is given to financial management, responsibility and adherence to congressional mandates; the institutional assessment process is thus inextricably tied to reporting requirements set forth by MARAD, DOT, OMB, and Congress. As discussed further on in the chapter, these assessment outcomes are collected and reported continually. Nonetheless, USMMA has used internal assessment processes to drive academic change, as befits an institution of higher education, one example being the current curriculum introduced in July 2013 after much internal review and debate.

Core Program Baseline Review

Following the previous decennial review, the Academy recognized that the midshipman programs (academic, regimental and co-curricular, including athletics) placed an excessive burden on the midshipmen. SI 2007-18 recognized that one could not talk about the time demands on midshipmen without considering the regiment, athletics, and other activities, including sleep [App. 4-1]. The SI established a Core Program Committee (CPC), noting that "...any significant or substantive change to the midshipman academic, regimental, or co-curricular programs is not possible without a major bottom-up review of the current conditions of the Academy's core programs" [App. 4-1, SI 2007-18]. The review was divided into five phases. The first phase established the baseline for all three programs. The second and third phases continued the process by reviewing the baseline and assigning times necessary to meet the baseline requirements. The fourth phase involved the development of completely revised core programs requirements, which would then be supplemented with additional courses. As stated in SI 2007-18, "programs not mandated through the baseline process will be assessed for their contribution to the overall academic, regimental, and co-curricular programs." The fifth phase called for the Strategic Planning Committee to "establish a policy for ongoing 'review and reinvestment'."

The Academy's Policy Board, created to reconcile disagreements and act as the final arbiter on all related matters, played an important role in the development of core programs. Detailed progress reports were provided to the Policy Board by the CPC, with the final Phase IV report completed in May 2011 [App. 4-2].

The *PRR* refers to this effort: "As a result, commencing with the Class of 2017, the Academy will introduce a lean and responsive academic program that is embraced by the entire community and places reasonable value-added demands on the midshipman's time" [EDR]. The evaluators during the periodic review noted that "Academic core requirements have been established, but regimental and co-curricular dimensions remain to be finalized" [EDR]. It does not appear that anything other than curriculum change has been effected since, despite considerable discussion by the committee of other time commitments in a midshipman's life at the Academy. Thus, the unfinished business of the CPC, especially in combination with the new initiative to formalize leadership development training, offers significant opportunities for enhancing institutional assessment.

Continuing efforts to improve the quality of life and instruction for midshipmen, the USMMA studied how to convert from the current trimester to a semester system as guided by the current Superintendent. Starting in 2013, two separate committees each studied the possible impact on the curriculum and determined a course of action that would allow for this conversion. Each committee had a broad representation of faculty and staff from across the Academy with substantial institutional knowledge and each committee conducted a thorough assessment. But both struggled with some of the same issues encountered in the curriculum baseline review: how to balance academic, regimental and co-curricular requirements. Indeed, the issues related to this initiative are precisely those that institutional assessment is best designed to address going forward, student learning on an institutional level [EDR: Semester Committee Interim Report].

Academy-wide Assessment Efforts

Academics

A great deal of assessment occurs at the Academy, especially in the Academic Division, discussed at length in Chapter 9. Data is collected by all departments and assessed each academic year according to direct and indirect performance measures. In addition, the AD conducts on-going analysis of student academic performance using several measures [App. 4-3]. These comprehensive measures provide reasonably accurate and truthful assessment results that enable the institution to progress towards achieving its goals. These results have been used to address unintended consequences in the current curriculum and to identify areas that need improvement. For example, recently, the MT department introduced a two-week remediation program for 2017-B split 2nd Sailors who failed the pre-requisite course in Celestial Navigation, helping students to stay on track and maintain their academic progression.

Institutional assessment results not only serve to improve educational programs but also to satisfy reporting requirements to MARAD, DOT, and Congress. This is especially the case with budgetary and finance related areas. In accordance with OMB guidance, the Academy must report on certain outcomes in each year's annual budget request [App. 4-4]. These include:

- Uniformed Commissioning Rate
- Graduation Rate
- Overall average Grade Point Average
- First time licensing rate for Deck graduates
- First time licensing rate for Engineering graduates

- Retention rate for first year students (Plebes)
- Diversity Graduation Rate

Another key recent assessment activity is that of the STCW Council, a committee designed to uphold and assess compliance with STCW standards [App. 4-5]. In Spring 2015, the STCW Council performed a two month-long internal audit assessing delivery and quality of instruction in preparation for the forthcoming USCG/MARAD audit of the Academy's mariner licensing program. In its April 2015 report, the Council recommended numerous corrective actions in response to its findings, all currently being implemented [App. 4-6]. According to the *2014 Faculty & Staff Survey*, faculty and staff understand what assessment is and rate institutional assessment as "important" [EDR, Summary in App. 1-8].

Administrative & Other Service Related Areas

Meaningful assessment efforts have occurred in the Administrative Division, albeit not on-going efforts or processes driven by the Academy. One area of note is capital improvements. In May 2009, the Secretary of Transportation commissioned a BRP to examine Academy facilities and provide advice on the priority of future capital projects, as mentioned in the previous chapter. The *BRP Report* concluded that "the conditions of the Academy's physical plant have reached a tipping point." In particular, the facilities for housing and feeding the midshipmen (i.e. barracks and commissary) required rehabilitation. The panel prioritized projects to be included in the Academy's capital budget for FY 2010-15 (Part I) and FY 2016-20 (Part II) [EDR: Capital Improvement Implementation Plan].

The Academy introduced a $54 million initial capital improvement plan that developed out of the panel's assessment, with a schedule for specific improvements. The *USMMA Strategic Plan 2012-2017* reflects these recommendations and the BRP Report led to the creation of a Capital Improvement Projects (CIP) action team, with renovations already undertaken or ahead, as covered in Chapter 2. Finally, a *Space Utilization Study* was commissioned in 2014 to further determine the most effective use of resources to accommodate planned capital improvements. Its findings were shared on a pre-decisional basis with the key Academy leaders in June 2015.

Several strategic performance measures are collected and assessed by the Superintendent's Office to gauge the Academy's progress towards achieving the Strategic Plan goals and objectives. As noted in Chapter 3, these are managed by the Superintendent's Office. Some of the metrics monitored include 1) information on number of offices that develop and implement standard operating procedures; 2) faculty publishing research papers and scholarly articles in peer-reviewed journals and presenting papers at professional meetings; 3) percentage of faculty whose annual performance plans include hands-on maritime training and continuing education; and 4) increased number of visiting professors, scholars, and lecturers [EDR: Strategic Plan Assessment]. Whereas this process provides evidence of assessment outcomes, the development of an integrated system of assessment would provide more timely and usable results.

Institutional Effectiveness Council

The creation of the Institutional Effectiveness Council (IEC) was an important step towards establishing systematic institutional assessment at the Academy. In March 2013, SI 2013-03 established the IEC, noting that "The Academy recognizes the need for a formal policy, process

and organizational structure to ensure the continuous achievement of the best possible level of institutional effectiveness" and revoking prior SIs 2005-14, "Institutional Assessment" and 2009-08, "Institutional Assessment Council" [App. 1-4; EDR]. The Council consists of all three major division heads – Deputy Superintendent, Academic Dean, and the Commandant – Academic DHs, Risk Management Officer, and the AOAC Chair, who provides input on student learning assessment outcomes, with the Director of the Institutional Assessment serving as the Coordinator.

Beginning in AY 2013-14, the IEC hosted a series of program reviews during which each department or unit described its mission or purpose, its stakeholders, its contribution toward the institutional mission, and the metrics used to measure success in meeting its mission [EDR: Program Reviews]. Programs gave extensive details, analyzing strengths, weaknesses, threats, and areas of opportunity. The results of the program reviews provided valuable insight and data for institutional-level action, and serve as an important resource for effective assessment. In addition, a Strategic Plan goal mapping exercise is underway to illustrate how each division, department, and unit has achieved the institutional goals [EDR: Strategic Goal Mapping]. Recognizing the value of these program reviews, the IEC is working to conclude the initial series with plans to schedule future reviews as warranted. Since its inception, the primary work of the IEC has focused on conducting program reviews.

As indicated in SI 2013-03, the Director of Institutional Assessment plays a significant role in documenting and assessing policies and how they support the Academy's mission and goals, and assisting programs in defining metrics and establishing measures that demonstrate evidence of continuous improvement. The Director began development of a draft institutional assessment plan that would serve as a framework for enhancing the institutional assessment process [EDR: Draft Institutional Effectiveness Handbook]. The incumbent subsequently vacated the position and the Academy is currently engaged in backfilling it.

Other Assessment-related Activities

While the Academy has made progress in building an internal institutional assessment process, many changes have been driven by external entities. The Advisory Board through its own review activities has had perhaps the most impact on institutional effectiveness. Its May 2014 report to the Secretary of Transportation Foxx [EDR] contained numerous recommendations that were subsequently conveyed in a letter from the Secretary to the Superintendent [App. 5-3]. Efforts are already underway to address areas relating to faculty professional development and teaching effectiveness, as discussed in the next chapter [App. 5-4].

The most evident and far-ranging change propelled by recommendations of the Advisory Board and a key directive in Secretary Foxx's letter is the development of a "comprehensive leadership program that integrates academic and regimental student activities and places leadership development at the forefront of the Academy Experience." As previously discussed in Chapter 1, developments in this area are ongoing and will have dramatic effects on institutional-level assessment of student learning [EDR: Leadership Program Brief].

Another area rigorously assessed and monitored at the highest levels, including Congressional Committees, is sexual assault and sexual harassment. The Academy's AY 2008–09 *Annual Report*

and AY 2009–10 *Biennial Survey and Report* based on an internal AY 2009-10 survey revealed disturbing information about conditions on campus [EDR]. A subsequent survey was conducted with results reported in the AY 2011-12 *Annual Report* [EDR]. Unlike its predecessor, the survey performed in AY 2011-12 was administered by the U.S. Department of Defense, Defense Manpower Data Center (DMDC). Urged on by the Senate Committee on Appropriations in *Senate Report 113-182*, the Academy has made major strides in response to the findings of survey results [App. 4-7]. Several SIs have been implemented to address concerns about sexual assault and harassment at the Academy as well as when midshipmen are at sea:

- SI 2012-08, "Sexual Assault Prevention and Response," outlines Academy policy on sexual assault prevention and response, assigning responsibilities and setting up procedures for midshipmen and other Academy personnel [App. 4-8].
- SI 2013-02, "Policy against Discrimination and Harassment, Including Sexual Harassment, of Midshipmen," describes the Academy policy against discrimination or harassment, detailing the process for midshipmen and other Academy personnel [App. 4-9].
- SI 2013-04, "Sexual Assault Review Board (SARB)," establishes a SARB that to provide executive oversight of, procedural guidance for and feedback concerning the Academy's Sexual Assault Prevention and Response program [App. 4-10].

The Academy's AY 2013-14 *Biennial Survey and Report* was submitted to Congress in January 2015, and shows improvement in addressing sexual assault and harassment [EDR].

Challenges to Institutional Assessment

The current internal organizational structure poses an inherent challenge for integrating institutional assessment. As previously noted, the Academy has undergone several organizational changes with consequent modifications in the administrative structure. This has hindered continuity and progress in developing an organized and sustained Academy-wide assessment process.

In the 2006 *Self-Study*, the Academy made the recommendation to "create a full-time position of Director of Plans and Assessment with the appropriate staff and resources to conduct and coordinate assessment and planning activities." As noted by the reviewers of the *PRR*, the Academy initially responded by creating a new entity, the Division of Policy and Public Affairs which was to be led by an Assistant Superintendent (equivalent to a Vice President). That position was dissolved during the 2012 institutional reorganization. With the subsequent hiring of a Director of Institutional Assessment in 2012, although not at the VP level, the Academy's institutional assessment efforts gained significant momentum. However, with the recent departure of the incumbent after a two-year stay, progress in developing a centrally focused process for collection and analysis of institutional data has been stymied.

Also, as discussed in Chapter 1, the Strategic Plan lacks performance measures that adequately measure the Academy's progress in achieving its institutional goals and mission. In addition, the Strategic Plan lacks specific campus-wide learning goals that allow for overall institutional assessment of student learning outcomes.

Self-Study Outcomes

The Academy conducts planned and sustained assessment activities with results used for continuous improvement of educational programs, student support services, faculty development, and efficiency in overall institutional operations. The Academic Division is much farther along than other divisions in developing a culture of assessment. With the initiative to incorporate leadership development throughout the Academy as a fundamental part of the midshipman learning experience, assessment becomes vital to measuring outcomes and the achievement of leadership learning goals. In the administrative services areas, several units report directly to MARAD or DOT. To the extent that assessments of success are measured in these areas, they are not wholly integrated into the overall institutional assessment process. It is envisioned that the Institutional Effectiveness Council, with its planned work to create a structured and integrated approach to internal procedures, will improve the overall institutional assessment process.

Recommendations

- Perform a review of the current composition of the IEC; modify the structure to include representatives with the skills and resources to provide the dedicated support for carrying out the functions of a body so integral to the Academy.
- Establish an Academy-wide infrastructure to support institutional assessment through synchronization of current assessment activities conducted by departments, administrative units, and committees, fully diagraming their interrelationship and lines of reporting to the Institutional Effectiveness Council.
- Continue work through the Institutional Effectiveness Council:
    - Evaluate institution-wide current assessment practices with focus on designing and implementing effective dashboard indicators, tools and reports that capture results and progress in achieving key institutional and program goals
    - Develop a well-defined reporting process that affixes responsibilities, a cycle of reporting that promotes efficient sharing of information, and plans for comprehensive and organized assessment
    - Inventory and identify all available data resources to include internal and external reports that support assessment activities for both student learning and administrative performance
    - Create and formally adopt an Institutional Assessment Plan that outlines the structure and interrelationship of all reporting entities engaged in assessment activities, assessment processes to include cycle and frequency of reporting, and procedures for sharing of information and assessment results.
- Establish institutional learning goals with a clearly defined assessment process and performance metrics that measure student learning outcomes in all areas including leadership development in the Regiment, Waterfront and other activities.

CHAPTER 5: FACULTY

Standard 10: Faculty

The institution's instructional, research, and service programs are devised, developed, monitored, and supported by qualified professionals.

Faculty at the USMMA effect its core mission: to educate and graduate Merchant Mariners and leaders of exemplary character. The rigorous academic curriculum at the Academy is designed so that students earn three credentials at graduation: a Bachelor of Science degree, a merchant marine officer license, and a commission in the Navy reserve. USMMA faculty must, therefore, bring an unusually diverse array of expertise and experience to bear in order to achieve the Academy's mandate.

A large proportion of faculty in the two degree-granting departments of ME and MT holds an unlimited master's license or unlimited chief engineer's license, though many have Masters, Ph.D.s, or other terminal degrees as well. Faculty in the general education and physical education departments have Ph.D.s and Masters Degrees, respectively. Faculty thus have a wealth of industry experience, licensing and/or academic credentials, and expertise in their respective fields. Many of our faculty publish widely, and well. Finally, with some faculty "on board" for as many as 40 years, there is also a wealth of institutional knowledge on campus, as well as new blood with those who more recently "swallowed the anchor."

The USMMA employs 141 part and full-time faculty. 85% of all faculty members are tenured or on tenure-track, a very high percentage of full-time faculty compared to academia as a whole. Demographically, 11% of the faculty are minorities and 16.5% are women. On average, a full-time faculty member has been with the Academy for 11 years. Professors teach an average of three courses a term, for three terms a year, with one month free of classes in the summer.

This chapter is divided into three parts: "Primary Mission," which focuses on teaching, service and professional development; "Employment Experience," which examines faculty life as federal employees who are also teachers and scholars; and "Working Environment" which focuses on the physical working conditions and relations among faculty and staff at the Academy.

Primary Mission: Teaching

Evaluating Teaching

Many faculty at the Academy are excellent teachers who inspire, and model, a love of learning while successfully teaching complicated subject areas as well as technical and general education competencies [App. 5-5; EDR: Dean's response to Rate My Professor]. The Academy has a rigorous system in place to evaluate teaching, well delineated in terms of roles, responsibilities, and procedures.

The yearly Performance Management System (PMS) provides a strict framework for evaluation of faculty. MAO 750-541, DM 304, and the Academy's Labor Management Agreement of 1988 each detail the evaluation and performance management process [EDR]. Academic Department Heads (DHs) observe non-tenured faculty three times and tenured faculty twice a year. DHs complete a "Classroom Observation Report," one key component of the annual performance appraisal, which

follows a mid-year review. In their annual *PMS Report*, faculty self-evaluate in five categories, providing an additional portion on how in-class activities have promoted student engagement. Faculty members include in their self-evaluation goals for professional development for the next academic year. Faculty members who are not full professors must also prepare a separate "progress towards promotion" document which DHs respond to in writing.

Improving Teaching

The July 2014 letter from Secretary of Transportation Foxx to Superintendent Helis, mentioned earlier in this Self-Study, issued a directive to establish a "program to routinely evaluate faculty methods in the classroom and to provide faculty support and training for professional development" [App. 5-3]. Concomitantly, the Academic Division, through the efforts of the Dean, has been focused on improving teaching and student engagement. For example, at the beginning of each academic year, a workshop is held with presentations made by distinguished professionals in their field on a variety of topics related to higher education. For AY 2014-15, the Academy hosted a full-day workshop on teaching excellence by a Master Teacher who writes a regular column for *The Teaching Professor* [EDR: Weimer Workshop Material]. The Dean sends weekly emails with teaching strategies and suggestions from *The Teaching Professor*. The Academic Outcomes Assessment Committee (AOAC) disseminates information and guides departments in conducting effective assessment of student learning. The ACE Director hosted a two-term series of well-attended webinars on teaching strategies [EDR: Mentoring Webinars 2013].

However, the Dean took further measures in response to the faculty-related short-term guidance in the Secretary's letter, implementing a number of items as of second trimester, AY 2014-15 [App. 5-4]. He increased the frequency of student course evaluations, expanded classroom observations by DHs, strengthened the faculty mentoring program, ensured consistency in multiple-section offerings of the same course, and took multiple steps to strengthen the professional development program for faculty. DHs are now required to submit a monthly compliance report verifying that faculty are maintaining scheduled office hours.

A faculty committee was established in October 2014 to coordinate "brown bag" discussion sessions on teaching strategies and effectiveness. Discussion topics have included the design and purpose of the *National Survey of Student Engagement* (*NSSE*) and how its findings can be used to improve faculty-student engagement; "Assessing Leadership in the Classroom"; and "Using In-class Exercises for Problem-Solving/Interpretation, Pre-Writing, and Paper Writing Tasks" [EDR: Brown Bag]. The sessions are well attended and have stirred considerable interest. Work continues with DHs to prepare an action plan in response to the long-term directives tasked by the Secretary.

It is important to note that the Faculty Forum took issue with remarks critical of faculty contained in the Advisory Board's original report, and responded in writing, subsequently meeting with its representatives in February 2015. Discussions continue between the two bodies to resolve what the faculty perceives to be unsubstantiated criticisms regarding their professionalism and competence as educators [EDR: Faculty Forum BoA Letters].

In fact, results from student focus groups describe a range of teaching effectiveness at the Academy. While some students praise the excellence of faculty, others bemoaned "death-by-PowerPoint," straight lectures and misleading tests. Students appreciated faculty with patience

who connected with students, and who were up-to-date on the latest technology in their field. Students lauded faculty knowledge, focus, organization, and understanding of their non-academic obligations and also attested to the smaller class size (student-faculty ratio of 13:1) positively affecting their learning [App. 5-5].

In the *2014 Midshipman Values Survey*, 73% of students agreed that the academic program was very good, while 94% agreed that the licensing preparation program was very good. In regards to workload and standards, 71% of midshipmen agreed that the academic workload is about right while 88% agreed that the performance standards are high. Overall 89% of students agreed that the Academy is having a positive impact on their intellectual development and 92% registered that it has had a positive impact on their systemic and logical thinking [App. 1-9]. Finally, relations between the faculty and midshipmen are seen as very good by 78% of midshipmen, though the *NSSE* 2014 survey of freshmen and seniors suggests somewhat lower figures [EDR: *NSSE* 2014 Report].

Primary Mission: Service

Faculty members provide vital services to the USMMA academic community as mentors; independent study instructors; course, sea-project and ABET assessment coordinators; license prep tutors; and "Fundamentals of Engineering" course preparation teachers, among many other roles. Faculty members volunteer additional time to better the life of midshipmen on and off campus while serving aboard T/V *Kings Pointer* and other Academy training vessels, as supervisors for team movements, or Emergency Medical Technicians, among many such examples. These service commitments are not included in credit load hours borne by faculty, though others, such as those requiring substantial administrative duties, may receive course release for work performed.

Faculty also serve on numerous committees that make and maintain academic policy. The Faculty Forum has seven standing committees: Academic Standards and Teaching (CAST), Curriculum, Procedures, Nominations, Library, Sea Year, and Regimental and Midshipman Affairs [EDR: Faculty Forum Charter and Bylaws]. The CAST committee recently revised rules for course exemptions and also analyzed *NSSE* results, at the Dean's request [EDR: *NSSE Report* to Faculty Forum]. The Curriculum Committee reviews all course changes and presents proposals to the Faculty Forum for approval [EDR: DM 206]. Only after a curriculum change is approved by the faculty, which often requests revisions from the respective departments or further clarifications, is it presented to the Academic Board and the Dean, and finally to the Superintendent.

Other committees reporting directly to the Academic Dean rather than to the Faculty Forum include the Faculty Personnel Committee, which oversees reappointment, tenure and promotion, and the Faculty Incentive Awards Committee, which oversees sabbatical applications. These committees give faculty significant input in certain key areas of Academy governance [App. 5-1]. The Academic Outcomes Assessment Committee (AOAC) under the Dean's direction and guidance, plays a key role in implementing, guiding and monitoring the course-level assessment process. The Candidate Evaluation Board, under the direction of the Admission's office, offers faculty the opportunity to review and evaluate applicants' qualifications for admission to the USMMA [EDR: Candidate Evaluation Board]. The Human Relations Committee is another important and active committee where faculty, staff and students from all segments of the campus come together,

under the longtime auspices of a committed faculty member, to discuss issues such as diversity and sexual harassment [App. 6-7].

Primary Mission: Scholarly Activities and Professional Development

USMMA faculty are diverse in background as well as accomplishments [App. 5-6]. Many are distinguished and respected in their individual fields; many come from successful careers at sea or ashore that enrich their teaching. Faculty in PE & A have received numerous team and individual awards and commendations [App. 5-7]. A number of faculty in the professional departments are considered subject matter experts and serve on advisory committees and international organizations such as the IMO. Faculty write and edit books as well as articles for peer-reviewed journals. But some experience difficulties finding time to research and write due to heavy course loads, service obligations, and the long academic calendar. Sabbaticals offer much needed and appreciated time for focused scholarly work, and the Academy has an equitable process by which faculty may apply. Sabbaticals are contingent on the availability of funds with typically one sabbatical, funds permitting two, being granted each academic year for two terms. [EDR: DM320].

The Academy's budget for faculty professional development ranged from $26,000 to $40,000 for FYs 2012 through 2014. In 2015, faculty development funds reached $120,000, with the bulk of these funds dedicated towards licensed faculty members' mandated maritime training, in accordance with the revised international maritime education standards (2010 Manila Amendments). However, the budget requests for FYs 2016 and 2017 once again dropped to approximately $32,000 although new training requirements will continue as will other traditional faculty professional development activities such as making presentations at professional conferences [EDR: DM 321]. Faculty are charged with delivering a highly technology-driven curriculum at the nation's only federal merchant marine academy, one that aspires to be a global leader in its field. A firm annual commitment of $100,000 to further those ends is reasonable and appropriate; when and if surpluses occur, the Academic Dean directs them toward additional faculty support for course releases and sabbaticals.

One additional impediment to faculty development activities exists: strict travel restrictions imposed by the federal government in response to abuses of that privilege by other federal employees. Although there has been no reported abuse of travel expenses by any Academy employee, federal rules apply to all government institutions. The total travel funds approved for the Academic Division in FY 2015, in accordance with the current DOT/MARAD policy, is $25,399, whereas the total funds available for faculty development over the course of the year is $120,000. So, even while funds may be available to support presentations or attendance at legitimate events and educational conferences, once the travel limit is reached, additional approvals are unlikely.

Another challenge relating to travel stems from the requirement to report all travel for the entire FY at its beginning, in early October, as travel funds may be exhausted almost immediately, as soon as they become available. This sort of allocation of resources for professional development does not suit faculty members who frequently do not know which professional conferences they are likely to attend as of early October, especially if events are scheduled for late summer or close to the end of the FY. In addition, most faculty members who are planning to present a scholarly paper at a professional conference for which they would like to receive funding are unlikely to know whether or not their paper has been accepted until a short time before the conference itself,

which makes it almost impossible for them to make a travel commitment in early October when the information is solicited by the Superintendent's Office. Therefore, the overall effect of the "first come, first served" resource allocation basis for faculty professional development is to preclude any off-campus activity unless identified definitively at the beginning of the fiscal year.

Despite the impediments outlined above, the USMMA Administration continues to be very supportive of faculty development. In FY 2015 alone, 45 individual faculty development activities receiving funding totaling $44,452 were awarded. The overwhelming hindrance to academic enhancement appears to be the combination of funding inconsistency coupled with the federally imposed travel cap.

Employment Experience

Hiring

As discussed in Chapter 2, the Academy faces challenges in the hiring process. Accordingly, in reference to the hiring process and evaluation, only 63% of participants in the *2014 Faculty and Staff Survey* agreed that it was fair (compared to 88% in 2004) [App. 1-8].

Evaluation and Promotion

As enumerated above concerning teaching, faculty evaluations are performed on a yearly basis. Faculty members meet with their supervisors at the beginning of the academic year to discuss the performance plan as well as scholarship, service and teaching activities for the coming year. Faculty members also complete a "Portfolio" capturing the above work for each trimester (EDR: Portfolio). In their yearly PMS review, faculty are evaluated in three main categories: educational services (90%); personal appearance (5%) and personal attributes (5%). "Educational services" includes all contributions to midshipman education. The Faculty Personnel Committee manages and oversees reappointment, tenure and promotion, according to information contained in MAO 710-181, MAO 710-182, the Academy's Labor Management Agreement of 1988 and DM 304 [App. 5-1, 5-2, and EDR]. The reappointment, tenure and promotion process more explicitly designates scholarly activity and assesses faculty in the following five categories (no weighting assigned): professional competence, teaching ability, scholarly activity, institutional service and personal attributes.

Based on the most recent survey, faculty holds a somewhat positive opinion of the evaluation, tenure and promotion process. 64% agreed that the performance appraisal system was effective, 72% agreed that the faculty promotion and tenure system was effective, 77% agreed that the tenure process was fair and impartial (79% vis-à-vis promotion) [App. 1-8].

The Faculty Union and Recent Initiatives

The USMMA Faculty Union serves as liaison between individual faculty members and the Administration, offering assistance with employment issues and helping to file a grievance if necessary. The Union is a local of the American Federation of Government Employees, Local Number 3732 and 70-80% percent of faculty are dues-paying members. The faculty contract, available to every faculty member, was negotiated with the Administration and is updated as necessary to include the latest negotiated items or changes.

The most recent negotiation the Union undertook deals with working hours: MAO 750-650

dictates an accountability process for faculty similar to that of a civil service or office-worker [EDR]. In order to follow the federal model, the Faculty Union and management agreed to convert to a Maxiflex system, which is the closest federal timekeeping system to the typical "academic" workday. Faculty are tasked with recording what hours they work (including evenings and weekends) and with submitting a plan at the beginning of each term as a contract for where and when they will spend their work hours. SI 2013-12 implemented Maxiflex [EDR].

Working Environment

Physical Conditions

In the *2014 Faculty and Staff Survey*, only 45% of the faculty agreed that the physical condition of the classrooms fostered a conducive educational environment [App. 1-8]. While the academic buildings await renovation, the physical learning environment in many classrooms remains less than optimal. The temperatures in many classrooms and offices are stifling hot in the summer and freezing in the winter. The general conditions of many areas are in disrepair, with painting and new ceiling tiles required. On a positive note, the educational technology in a majority of the classrooms is kept up to date and in reliable working order, a testament to the work of the instructional technology specialist (EDR). WIFI is accessible in public spaces and most classroom desks are new. In addition, responses in the *2014 Faculty and Staff Survey* agreed that the library and IT supply good support for effective instruction [App. 2-9].

Collegiality and Morale

As covered more extensively in Chapter 2, there is a strong consensus among faculty that the Academy is a collegial place to work. It is also significant that in the *2014 Faculty and Staff Survey*, a large percentage of faculty (78%) agree that the Academy fosters a positive learning environment between students and faculty. This is a dramatic improvement from 2004, when only 46% of the faculty agreed with the statement [App. 1-8].

However, the overall faculty morale has declined when compared with 2004 survey results. 95% of faculty agree that the changes resulting from rapid turnover in the Academy leadership have had an impact on morale. Another possible reason is the lack of an effective employee award program. For example, only 33% of faculty and staff surveyed in 2014 agree that the employee awards program is effective as compared to 60% in 2004. One explanation is that faculty may have interpreted "employee awards" to be the same as "spot awards" which were a system of cash rewards that recognized jobs done particularly well, beyond the "call of duty," which are now no longer available.

In 2014, 62% agree that their professional opinion was sought and valued, compared to 71% in 2004, and only 46% agree that the plan to upgrade instructional resources was adequate, compared to 64% in 2004. Heartening to note, however, a large percentage of faculty (80%) is comfortable discussing new and/or controversial topics as they relate to subject matter in the classroom.

Self-Study Outcomes

Many actions have been taken to improve teaching Academy-wide. DHs are observing faculty more frequently; are making interventions in response to student evaluations more proactively; and are organizing faculty mentoring processes more effectively. An ad-hoc committee initiated by the Dean's office has organized sessions on effective teaching that were well-attended, and several workshops, via the internet and through other forums, have disseminated teaching techniques across the campus. Faculty morale is nevertheless low, in part because of changes resulting from rapid turnover in leadership at the Academy.

Since the Faculty Forum has an advisory role with only limited input into institutional governance, it is especially important that faculty feel that their voices are heard and respected by the Administration. Other than in quarterly town hall meetings, there is little direct and open dialogue with upper management. A better means of drawing from the experience of faculty members, some of whom have held prior administrative positions, or who have decades of teaching experience, would be in the best interest of the institution. Increased communications, where faculty feel that their voices are heard and acted upon vis-à-vis governance, outside of a town-hall setting, may go a long way towards improving morale.

Recommendations

- Increase visibility of upper level management and their interaction with faculty, whether informally or in regular meetings throughout the year.
- Facilitate effective engagement of the Academy faculty to promulgate positive changes on campus, share knowledge and expertise, and enhance employee morale.
- Explore ways to improve allocation of the budget for professional development, perhaps by separating the travel component.

CHAPTER 6: STUDENT ADMISSIONS, RETENTION & SUPPORT SERVICES

Standard 8: Student Admissions and Retention

The institution seeks to admit students whose interests, goals, and abilities are congruent with its mission and seeks to retain them through the pursuit of the students' educational goals.

The policies and procedures by which the Office of Admissions recruits, selects, and admits students comply with the regulations set forth in 46 CFR, "Admission and Training of Midshipmen at The United States Merchant Marine Academy" [EDR]. Prospective candidates can obtain information about the application process on the Academy's Office of Admissions' homepage: http://www.usmma.edu/admissions. The website explains how students must first obtain a nomination from a member of the US Congress before applying to the Academy. Each member of Congress is permitted to submit ten nominations. The Academy upholds a strict quota system by state and must extend offers to qualified applicants to meet the quota. Students who are qualified, but who do not receive offers of admission, are placed, in order of ranking, on a hold list.

The Office of Admissions is charged with attracting and enrolling candidates who meet the rigorous academic, physical, medical, and aptitude standards for admission to the Academy. Their efforts are supported by a force of approximately six hundred volunteers across the country who serve as local recruiters, mentors, and advisors to students interested in applying to the Academy. These volunteers include alumni, parents of current midshipmen or alumni, local faculty and staff, and others who support the mission of the Academy. In addition, athletic coaches work aggressively to identify, advise, and counsel students who might be interested in the Academy's programs. Campus visits give students a first-hand view of regimental life and the academic and sports programs. The Office of Admissions also sponsors an Open House at the Academy and regularly participates in career days and special events hosted by high schools throughout the nation. Through the hard work of alumni, family, and friends, many learn of the rich history of the Academy and of the opportunities that await its graduates.

Specific details about academics and student life can be found on the Academy's homepage. The Academy Catalog which provides descriptions of all degree programs and courses is also available online [EDR]. The Registrar's Office, jointly with the Office of Institutional Assessment, collects Integrated Postsecondary Education Data (IPED) which is analyzed and presented in a class profile and summary [Apps. 6-1 and 6-2]. Table 6-1 shows the number of inquiries, applications, and students enrolled by class year for the past seven years.

Table 6-1 – Student Application and Selectivity Trends, Class Years 2012-2018

Category	2012	2013	2014	2015	2016	2017	2018
Inquiries	7,299	7,370	6,721	7,405	9,544	10,190	9,194
Applications	1,734	1,823	2,006	2,076	2,272	2,319	2,217
Nominations	1,334	1,345	1,479	1,631	1,681	1,823	1,696
Met Selection Criteria	497	494	571	639	657	690	688
Appointments Offered	449	450	467	412	409	354	378
Enrolled Midshipmen	307	291	342	285	273	237	252
Selectivity (Offers/Apps)	26%	25%	23%	14%	18%	15%	17%
Yield (Enrolled/Offers)	68%	65%	73%	69%	67%	67%	66%

Evaluation & Selection Process

The Admissions Office and a Candidate Evaluation Board (CEB) composed of faculty and staff evaluate a candidate's file once it has been completed for review. The CEB allows USMMA personnel, and not just the Admissions Office, to help assess future midshipmen, with academics, "adaptability" to the USMMA, medical and physical standards being the key criteria considered. Admissions and the CEB also analyze the candidate's written essay, which expresses his/her motivation for applying, along with letters of recommendation attesting to character and other notable traits.

Academic Performance

The qualifications of the pool of applicants continue to improve; accordingly the USMMA has raised the required minimum SAT scores in order to appeal to students most equipped to tackle the accelerated, challenging curriculum. The English/Critical Writing minimum SAT score was raised incrementally from 480 to 560 and that of Mathematics from 500 to 560. Table 6-2 illustrates the class average SAT scores in Reading and Math, the combined mean, and high school class ranking.

Table 6-2 – Average SAT Scores and High School Rankings by Class, 2014-2017

	2014	2015	2016	2017
SAT Reading	586	596	615	614
SAT Math	629	635	644	643
SAT Combined Mean	1,215	1,231	1,259	1,257
Top 10% High School Rank	20%	24%	28%	33%

Adaptability

The applicant's engagement in extracurricular activities serves as a good indicator of his/her adaptability towards Academy life and subsequent success. Accordingly, the Admissions Office considers leadership traits and involvement in academic clubs, honor societies, student government, scouts, community service and varsity athletics among other activities. In addition, up to ten bonus points may be awarded by the Director of Admissions to reflect a candidate's maritime experience and/or achievement. Table 6-3 shows admitted applicants' participation in secondary school clubs and organizations.

Table 6-3 – Class Profile: Clubs and Organizations, 2012-2018

	2012	2013	2014	2015	2016	2017	2018
Honor Society	34%	40%	40%	52%	57%	62%	63%
National Merit Scholars or Alternates	5%	4%	4%	4%	7%	5%	6%
Class Valedictorian or Salutatorian	3%	1%	1%	3%	2%	3%	4%
Athletic Team Captain	55%	59%	59%	64%	65%	64%	72%
Earned Varsity Letter	81%	85%	85%	96%	86%	82%	86%
President of Class/Government/Clubs	36%	33%	33%	38%	37%	48%	50%
Boys State / Girls State	12%	14%	14%	13%	15%	18%	17%
Junior ROTC in High School	11%	10%	10%	11%	9%	11%	12%
Navy Sea Cadets or Civil Air Patrol	8%	8%	8%	9%	6%	9%	9%
Boy/Girl Scouts	36%	37%	37%	36%	35%	32%	27%
Earned Eagle Scout / Gold Award	17%	17%	17%	20%	15%	18%	15%

Medical and Physical Qualifications

The Department of Defense and the Navy establish the medical standards that a candidate must meet for officer commissioning; the USCG does the same for the licensing of merchant marine officers. Those who do not pass their medical evaluations initially may request a re-evaluation or a waiver from the Department of Defense Medical Examination Review Board (DoDMERB) or the Navy's Bureau of Medicine. All applicants must be medically qualified and must also pass the Physical Aptitude Examination (PAE), a series of exercises with minimum acceptable scores for each event.

Special Appointments

Federal regulations permit the Academy to admit approximately 40 students each year outside of the order of merit rankings. These students must "possess qualities deemed to be of special value to the Academy" [EDR: 46 CFR 310(C)]. "Achieving a national demographic balance" is a priority. In accordance with the Academy's Strategic Plan, these special appointments are being used to increase gender and racial/ethnic diversity. All candidates considered for a Special Appointment must meet the minimum admissions criteria. If candidates do not achieve a set minimum total competitive score, they must be approved by a Special Appointments Committee. The Committee is chaired by the Superintendent, and DOT officials must approve each special appointment [App. 6-3]. Table 6-4 displays the number of Special Appointments in each class from 2014 to 2018.

Table 6-4 – Special Appointments, Class Years 2014-2018

	2014	2015	2016	2017	2018
Athletes	18	8	14	3	0
Minorities	8	0	4	8	19
Females	2	0	3	11	11
Demographic	0	0	0	0	0
Band	1	0	2	0	0
Sailing	2	0	0	0	0
Total	31	8	23	22	30

The Academy is seeking to attract a higher percentage of women and African-American students for future classes. The target goal for total minority representation (including Latino, Asian, and Native American) is 15–20%. Each year, the Office of Admissions analyzes class profiles and adjusts future recruitment. This assessment process has led the Academy to incorporate several new programs and initiatives, such as the expanded use of Student Search, the expansion of the prep school program, a new women's recruitment brochure, and Alumni Foundation-funded Academy visits by under-represented students and their parents. The results have yielded increases in both female and minority representation at the Academy. As depicted in Tables 6-5 and 6-6, female student enrollment has steadily climbed from 12.9% for the class of 2014 to 18.7% for the class of 2018. Minority enrollment has also increased from 15.2% for the class of 2014 to 27.4% for the class of 2018.

Table 6-5 – Female Student Enrollment, Class Years 2014-2018

	2014	2015	2016	2017	2018
# Enrolled	44	42	41	38	47
Percentage of Class	12.90%	14.70%	15.00%	16.00%	18.70%

Table 6-6 – Minority Enrollment, Class Years 2014-2018

	2014	2015	2016	2017	2018
Total Enrollment	342	285	273	237	252
African-American	9	5	6	8	10
Asian	19	17	22	18	22
Latino/Hispanic	19	23	25	26	30
Native American	5	3	2	2	7
Total	52	48	55	54	69
Percentage of Class	15.20%	16.80%	20.10%	22.80%	27.40%

Service Academy Preparation

In a program aimed at increasing diversity while also seeking whole person development, applicants who do not fully meet minimum admissions criteria may be offered the opportunity to attend a prep school program under Academy sponsorship. The Academy sends 40 students each year to prep programs: in AY 2016, 28 will attend New Mexico Military Institute and 12 the Service Academy Preparatory Program at the Marion Military Institute in Alabama. These sponsored students study for one academic year (two semesters). The demanding program includes Math (Pre-Calculus, Calculus), Chemistry, Physics, English, and other courses. Their progress is monitored closely, and upon successful completion, with satisfactory course grades and cumulative GPAs, sponsored students may be offered an appointment to the Academy's class of 2020.

Foreign Students

Each year, a small number of foreign students are admitted to the Academy [EDR: 46 CFR 310(C)]. Foreign students must attain qualifying scores on standardized tests including the TOEFL test which is used to determine their English proficiency.

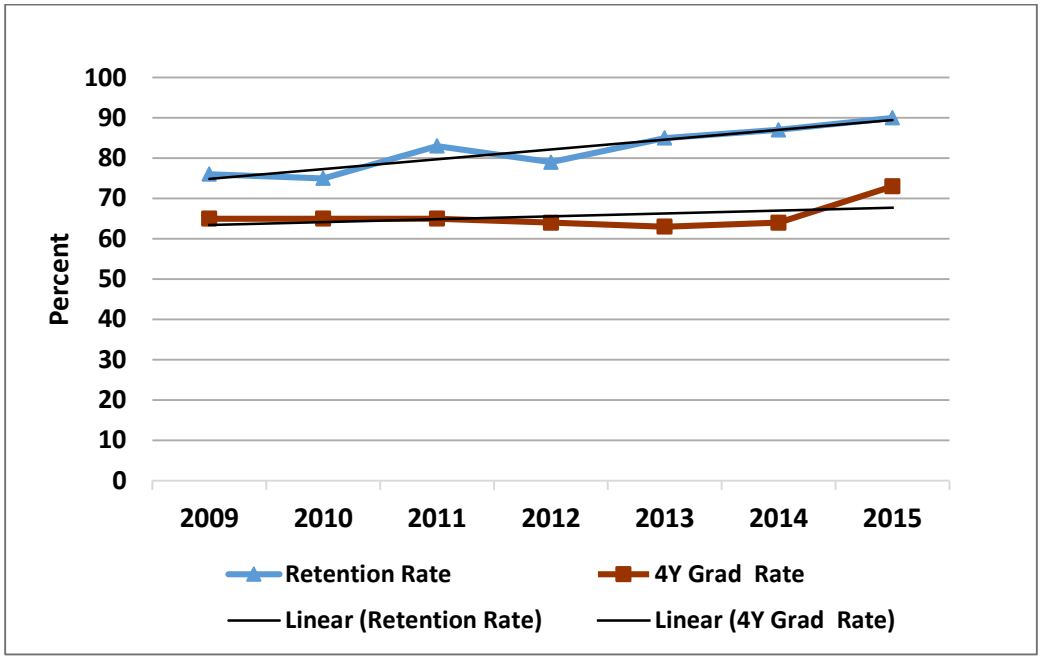
Financial Aid

Tuition, room and board, uniforms, and books are fully funded by the federal government. Other expenses, such as laptop/notebook computers and other miscellaneous personal expenses must be borne by the students. Students seeking financial support may apply for Pell Grants, Stafford Loans, and Parent PLUS loans. Students and parents can obtain information on how to apply for financial aid from the Office of Admissions' Financial Aid webpage. The Financial Aid office is in full compliance with federal guidelines as set forth by the U.S. Department of Education. The Academy's student loan default rate in recent years has been among the lowest in the nation.

Retention

The 2012-2017 Strategic Plan calls for increasing retention and graduation rates. As graphed in Figure 6-1, while the retention rate for first year students averaged 76% in 2009 and 2010, it rose significantly in subsequent years and exceeded 90% in 2015. Similarly the four year graduation rate that averaged 65% from 2009 to 2013 rose during the last two years, reaching 73% in 2015.

Figure 6-1 – Retention and Graduation Rates, 2009-2015

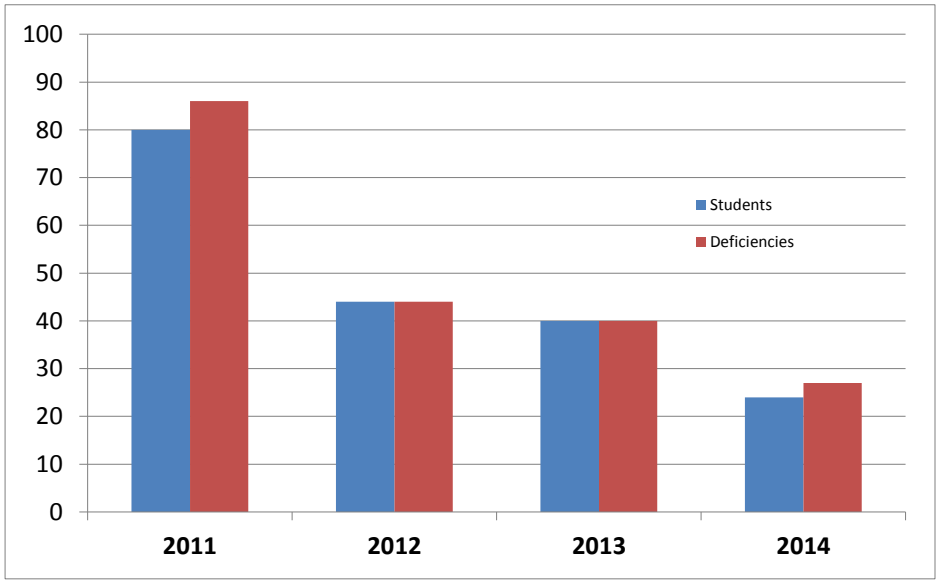


Increased selectivity in admissions is one reason for better retention and graduation rates. Other reasons include faculty commitment to student success and the much enhanced academic support services, available to all midshipmen and discussed in the next chapter.

Summer School

The availability of summer school, coordinated by the Academic Division, helps those midshipmen with first year academic deficiencies maintain their progression. There are stringent pre-requisite course completion requirements that they must meet before their first voyage aboard a ship in addition to completing the fundamental courses in Calculus, Physics and Chemistry. The AD identifies summer school candidates proactively and schedules month-long intensive courses for those students during the one month (from late June to late July) when regular classes are not in session. The opportunity to take up to two classes during this period gives them a second chance to remain with the rest of their class. There has been a declining trend in the number of summer school attendees (see Figure 6-2), validating overall improvements in student learning and outcomes.

Figure 6-2 -- Summer School Statistics, 2011-2014



Self-Study Outcomes

Admissions standards have become increasingly rigorous and more selective. Progress is being made to increase racial, ethnic and gender diversity at the Academy.

Recommendations

- Track the progress of students who matriculate at the USMMA after one year at New Mexico Military Institute or Marion Military Institute and analyze their academic performance.
- Continue efforts to enhance diversity in the student body.

Standard 9: Student Support Services

The institution provides student support services reasonably necessary to enable each student to achieve the institution's goals for students.

The Academy has a robust system of support services in place to foster student success. Academic support is well developed, systematic and far-reaching while the Commandant's Office oversees almost all aspects of student life in order to ensure a safe and "dynamic campus culture." The Academy has long considered the four pillars of a USMMA education to be Academics, Sea Year, Regiment and Athletics (or Co-Curriculars). Though learning oriented aspects of the four pillars are considered in other chapters, it is important to note the extent to which each "pillar" supports student growth, as well. Coaches and teams nourish and promote student development, with students often saying that sports are essential for their sense of well-being. One of the Academy's great strengths is the degree to which students support other students, a sense of teamwork that arises out of the regimental system. Athletics – along with Waterfront – are both cited as among the most "liked" aspects of student life (along with other students, camaraderie and friendships) [EDR: *Midshipman Values Survey*]. The new Director of Student Activities, a position created as a result of *Advisory Board Report* recommendations, should help spearhead social initiatives within the campus itself, where students spend a great deal of their time [EDR].

Academics

Office of the Dean: Student Support

As the admissions portion of this chapter has shown, the academic credentials of incoming students have steadily increased. However, the academic support programs and learning resources available to midshipmen have also grown substantially during the past several years and have played a significant role in the steady increase of GPAs and retention, and decrease in disenrollment [EDR: Academic Division Faculty Today]. The Academic Support Program is described in DM 241 [App. 6-4].

Figure 6-3 – Average Institutional CQPA (by class and term)

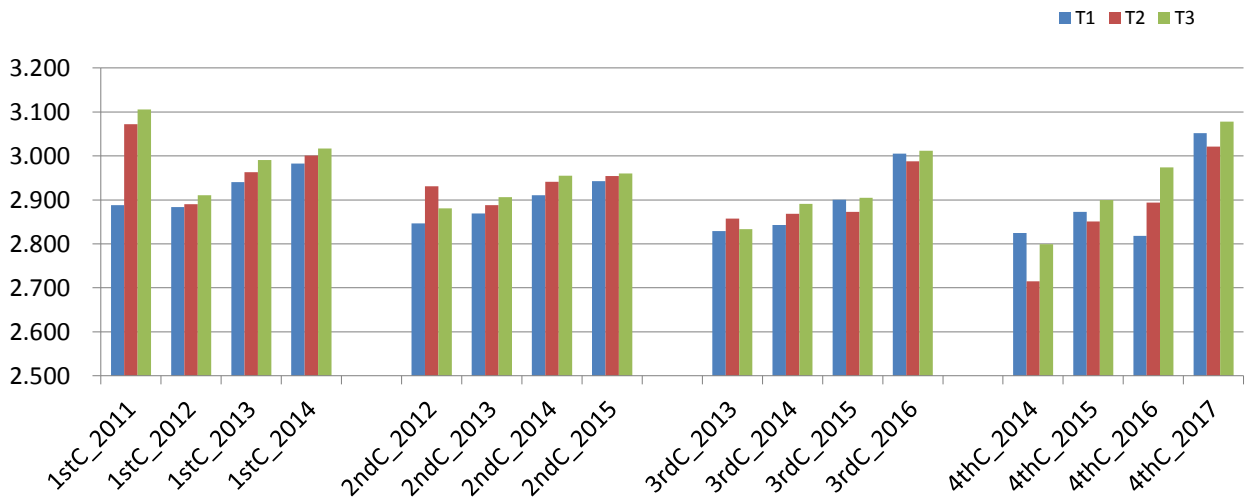


Figure 6-3 illustrates that during the four-year period from AY 2011 to AY 2014, in general, each cohort of midshipmen earned a progressively higher cumulative grade point average than the previous cohorts for each trimester every year, a striking academic accomplishment. Well structured and administered academic support, geared specifically to both our fast-paced, math and science heavy, curriculum and to a generation of students who appreciate customized and convenient tutoring, have contributed to the trends revealed by Figure 6-3.

In some sense, academic support happens even before students arrive at the Academy, when select candidates are given a stronger skillset through a year's sponsorship at a preparatory school, as already discussed. During Indoctrination, a two and a half weeks introductory training period discussed further in Chapter 8, students take the Noel Levitz survey, used to track and monitor at-risk students' performance over the course of their enrollment [EDR]. Students also complete math placement and engineering aptitude tests, with slower paced math classes to follow as appropriate. The Office of the Dean monitors grades over all four years to provide intervention in response to warning signs or "deficiencies" and also oversees a variety of initiatives designed to help students succeed academically.

Dean's Hour

During the first term of each AY, the Registrar schedules one class period per week for the plebes for a series of presentations and lectures coordinated by the Office of the Dean. Each week, the Director of the ACE covers topics including "split" (when students go out to sea) and major selection; study and time-management skills; career opportunities in the maritime industry; academic policies and regulations of the Academy, including proficiency requirements; and ethics. The idea is to present topics that will assist plebes as they transition from high school to college, and faculty/staff from across the Academy lead discussions with that goal in mind. The trimester-long Dean's Hour is a kind of "USMMA Education 101."

Common Hour

Every academic year, one period per week is set aside as a "common hour" for as many terms as possible. No classes, makeup classes or regular office hours may be scheduled during this academic period. Midshipmen can thus meet with their academic mentors (discussed below) one to two times per month or take advantage of extra-help sessions, scheduled on an ad-hoc basis.

Midterm Grades

Faculty members submit mid-term grades for plebes or fourth classmen – students become fourth classmen after they are "recognized" by the Regiment – each trimester. Mentors distribute grade reports, prepared by the Registrar's Office on the basis of these submissions, to all students. The Office of the Dean analyzes the grades and assigns deficiency codes, where applicable. These codes do not remain on the student's permanent record, but, they are a helpful way for students to become aware of their weaknesses and refocus their attention so that the deficiency status does not become permanent at the end of the trimester. Students may also be subject to restrictions on non-academic activities such as clubs and/or athletics.

Academic Center for Excellence (ACE)

The Director of the ACE under the Dean's guidance, plays a major role in providing support for student learning. The mission of the Academic Center for Excellence is to "provide support for all midshipmen at the USMMA so that they may achieve academic success" [EDR: ACE Program Review]. The current ACE Director, recruited in 2012, has played an integral role in transforming the ACE into a valued and appreciated asset. The following support services are currently coordinated through the ACE:

- Academic Mentoring Program. The Director of ACE assigns a faculty/staff mentor to all students based on students' interest [EDR: Mentoring Handbook]. Mentors meet first-year students at the beginning of the AY and at least once a trimester, when mid-term grades are issued, hence ensuring contact a minimum of four times during the freshman year. Mentors explain the tutoring programs available, provide guidance and counselling on coursework or any other academic concerns, and often give insight into life at the Academy and students' prospective career paths. The ratio of students to mentor is roughly 3:1 per class year. Where mentors have requested to work with a particular athletic team, that ratio may climb to 7:1. Many mentors meet with their students during the three years students are on campus, and some embrace the process, attending all workshops for mentors run by ACE and meeting frequently with their students. Other mentoring relationships are minimal, something a student center or locale where faculty and students intermingle as a matter of course might help address.
- Professional Tutoring Program. Trained educators and professionals tutor students after class hours [EDR: Tutoring Schedule].
- Peer Tutoring Program. In the Regiment, as stated above, students play a crucial part in supporting each other. DM 244 describes the roles and responsibilities of midshipman academic officers [App. 6-5]. These officers, appointed at the company, battalion, and regimental levels, work under the ACE Director's supervision and are responsible for both administering the peer tutoring system and monitoring the academic performance of plebes.
- Tutor.com – The Academy began offering this support service in May 2014. Tutor.com brings customized attention to the "millennial generation" who, research has shown, thrive on adaptive learning, whereby computers tailor lessons to their particular user or audience. The service allows round-the-clock one-on-one tutoring. Students most frequently use Tutor.com for Calculus, Physics, Chemistry and Writing and report strong satisfaction with the service.
- Academic Alert System. Faculty members who identify an academically deficient student can use the Academy's academic alert system, specifying the area(s) in which the midshipman is having problems. This system was introduced in 2008 and has undergone significant improvements over the last few years. Recently, with the implementation of the CAMS system, notification goes to the academically deficient student, who is then required to contact his or her mentor, Company Officer, Battalion Academic Officer, Company Academic Officer and the Director of ACE. A student placed on academic alert is required to attend mandatory weekly study hall sessions coordinated by the ACE Director for the duration of the term, or until s/he has been formally removed from alert status. The academic alert system has proven invaluable as it has seen an academic "save rate" of 91% between the years 2008 and 2013; since 2013, the save rate has risen to 95%. [The "save rate" computes how many academic alerts did not result in referrals to the Academic Review Board (ARB)]. ACE also monitors the number of alerts

a single student receives because multiple alerts correlate with a higher risk of being referred for ARB. Currently, use of the Academic Alert System is not mandatory for faculty. Its success suggests that because it functions so well, it should be.

- Gold and Silver Star Ceremonies. Once each academic term the ACE, in conjunction with the Office of Professional Development and Career Services, hosts a Gold and Silver Stars and Sea Year Ribbons ceremony in order to recognize students who have achieved a certain level of academic excellence. The criteria for these awards are clearly defined in the Academic Policies Handbook and set a standard for academic excellence and recognition at the Academy.
- Faculty Professional Development. In 2013, the ACE hosted a series of webinars entitled the "20 Minute Mentor Program" presented by Magna Publications [EDR: Mentoring Webinars 2013]. These webinars were well-attended [EDR]. One topic covered included "how to grade class participation" which drew a particularly wide array of faculty who had lively discussions afterwards.

  While the ACE's main focus currently is on student support, it is time to broaden its role so that ACE can expand its faculty development activities. Additional resources, including staffing, are required for the ACE's maturation to a full-fledged Center of Excellence for Teaching and Learning.

English Support Program

The Department of Humanities offers a zero credit English Support course. The assignment of students in this course is based on an essay they write early on in their composition classes. Faculty assess the essay, focusing on grammar issues. Those assigned spend one term of their plebe year working on remedial writing one hour a week with a writing specialist.

Office of Professional Development and Career Services (PDCS)

PDCS, an office under the Academic Dean, serves two vital functions: shipboard training and career services. During Sea Year lectures which occur over the trimester before students' first sea-term and then again before their second sailing, students gain practical knowledge on the performance and operating characteristics of various classes of vessels, the operating requirements of different trade routes and labor relations in the ocean shipping industry. In addition, Academy Training Representatives (ATRs) compile and update an extensive Sea Year guide; assign midshipmen to vessels; monitor and guide progress while students are off campus, including by administering the evaluations given by ships' officers; evaluate student papers submitted for internships, which the department coordinates; and serve as liaisons between the midshipmen and the shipping companies. The ATRs provide alcohol-awareness training and also discuss conduct on ship and while in ports. Responses on the *2014 Midshipman Values Survey* demonstrate solid approval for Sea Year support [App. 1-9, EDR].

On the career services side, PDCS teaches résumé writing and explains about the service obligation that follows graduation, including employment options. The department holds two very successful career fairs annually, with an increasing number of recruiters each year: the Sea Fair (in the Fall) and the Shipping Out Fair (in the Spring) [EDR: Fair Attendees].

Regimental Life

For the educational aspects of the Regiment, please see "Related Educational Activities" in Chapter 8.

All midshipmen are required to reside on campus, with housing, food services, social programs, extracurricular activities and other programs and support services supplied by the Academy to ensure their health, fitness and safety. The Commandant of Midshipmen and his staff of approximately twenty personnel oversee a full range of activities to support the regimental life of midshipmen. Through the regimental system, the midshipmen also take ownership in ensuring that the regiment runs in a well-disciplined and efficient manner and inculcate military bearing.

- Housing. All midshipmen live in one of the six barracks facilities (dorms) on the campus. Each barracks houses a company of midshipmen. Recent renovations have significantly improved living and working space for students [EDR: CIP Annual Report]. The zero deck is currently under renovation and will accommodate an assortment of meeting, game, and entertainment rooms (to be started in 2015 and completed a year from the start date). With Cleveland Hall complete, all barracks have now been renovated over the last ten years. The barracks received high marks on the *Midshipman Values Survey* and midshipmen report feeling safe [EDR: *Midshipman Values Survey*]. A Company Officer (CO) monitors the condition of the rooms under his/her charge and also the health and welfare of the midshipmen. A Public Safety Officer routinely checks the barracks on hourly rounds from 9:00PM to 6:00AM.

- Food Services. The Commissary, under the direction of the Food Service Officer, operates all food services through a food services contract. All meals are served in Delano Hall, although meals to accompany team movements and special groups can be arranged when advance notice is given. Lunch is the only meal during which the entire Regiment of Midshipmen is served in one sitting. The Academy recently completed a multi-million dollar galley renovation in 2014, equipping the kitchen with up-to-date food preparation equipment and making it easier to serve prepared food on an expanded cafeteria line [EDR: CIP Annual Report].

  In September 2013, a new food service vendor, Crystal Enterprises, was awarded the contract to provide food services for the Regiment. However, midshipmen continue to voice dissatisfaction with the food quality and options in many forums [EDR: *Midshipman Values Survey*]. The *2014 Midshipman Values Survey* ranked food the last among 18 services. When asked if the dining services provided satisfactory meals, the result was a score of 2.53 out of a possible 6.0. In response to suggestions from the Advisory Board to offer more after-hour options, the Navy Exchange has installed a snack vending machine facing the NEX (Naval Exchange shop).

  The *Seafarer*, also operated by Crystal Enterprises, is a small pay-as-you-go cafeteria on the zero deck below Delano Hall that serves breakfast and lunch. As the only other eating facility on campus, the Seafarer is a kind of social hub for the Academy community. [App. 2-9].

- Administrative Services. This division includes the bookstore (which also handles uniforms), barbershop (and a newly added salon), laundry services (cleaners and an on-site tailor), and the Navy Exchange. Following completion of renovations to the zero deck, many of these services will have a more appropriate and convenient physical space for serving the

midshipmen; some are currently situated in provisional quarters to allow for the said renovation.

- Midshipman Clubs and Organizations. Midshipmen participate in a vast array of clubs and organizations, ranging from the professional to special-interests. Some examples are the Propeller Club, which advances maritime industry and commerce; Kings Point Moral Science Society; Auto Club; Maritime Law and Business Society; Drill Team; Color Guard; Spectrum Club; and Yoga Club, among many others [EDR: Midshipmen Clubs]. Club activities are organized and led by midshipmen under the supervision of the Commandant's Office. Especially for plebes, joining a club allows for rest, recreation, getting off campus and a chance to socialize freely with students from other years. With 43 active clubs and organizations, most every student can find their own interest reflected and a group with whom to associate. Student writings in the electronic documents room give more details on experiences with clubs and activities. [EDR: Students on Clubs].
- Social Programs. The Academy has recently hired a Director of Student Activities to aid midshipmen in the development of social, cultural, civic, intellectual and recreational programs. One activity in existence for several years is the Cookie Café held in Land Hall, a quasi-student center for the campus. (http://kpcookiecafe.com/). Cookie Café is hosted each Thursday when classes are in session. This event, organized by parents and alumni, is an inviting idyll of collegiality and conviviality, a true emblem of USMMA at its best. Also in Land Hall, the Midshipmen Pub is occasionally opened; at other times, students of legal age frequent hostelries in the neighborhood. The Midshipman Council organizes such activities as the June Ball, Midshipmen Appreciation Day, Winter Ball, Halloween party and a Valentine's Day party. Social programs are publicized through the Regimental calendar, via email, and through posters or fliers. Announcements are also made at each lunch muster to inform Midshipmen of upcoming activities.
- Chaplain Services. The mission of the Command Religious Program under the guidance of a United States Navy Chaplain is to provide for the free exercise of religion. Also reporting to the Commandant, the Chaplain Services minister to the religious and spiritual needs of students. The chapel hosts popular clubs like "Band of Sisters" and Newman Club, counsels confidentially, and sponsors a wide range of activities. Survey results from the *2014 Midshipman Values Survey* showed high ratings for the variety of programs and services that it offers [EDR: Chaplain Services Program Review].
- Waterfront Operations and Training. The mission of the Department of Waterfront Operations and Training is "to promote Midshipmen leadership training and professional development through the use of waterfront resources." Students command and crew both large and small vessels – sail and power. The Waterfront has competing, and highly ranked, sailing teams. The RWO (Regimental Waterfront Officer) is the highest ranking Midshipman officer at the waterfront and has a staff of five officers and as many as 12 petty officers. The Waterfront boasts that this is a midshipman-run department with oversight and guidance provided by the Director, Deputy Director and coaching staff. Chapter 7 contains further information on the Waterfront, including the *Kings Pointer* [EDR: Waterfront Program Review].
- Band. Band Company comprises an entire company of Midshipmen. Its students have a strong sense of camaraderie, since they associate across all grades from the beginning of their tenure at the Academy [EDR]. Midshipmen are called upon to develop especially strong time

management skills since they practice several times a week, at certain times of year. The Band Director has been at the Academy since 1971 and has built the band into a storied, and highly regarded ceremonial band over the years [EDR: Captain Force – *NY Times*]. The band plays at a wide array of events throughout the year, such as the Battle of Brooklyn commemoration ceremony at Green-Wood cemetery in Brooklyn, Presidential inaugurations and the "Beat Retreat" on campus.

- Naval Science Department. The Naval Science department (NS), although engaged in delivery of instruction within the Academic Division, falls under the supervision of the Commandant of Midshipmen. The department is staffed by active duty Naval Officers who teach three required two-credit courses which students must pass in order to receive their Navy Reserve Commission [EDR: Course Catalog]. Naval Officers also deliver counseling, assistance, and advice to midshipmen who seek an active duty billet in the Navy [EDR: Naval Science Program Review].

Health, Safety, and Well-Being

Health Services

The Academy's Health Services are provided by the Department of Midshipmen Health and Emergency Medical Services (MHEMS) and its staff of 15 qualified personnel. The CFR mandates that midshipmen receive "limited medical and dental care" [46CFR, § 310.62 (EDR)]. Additional services, when needed, are administered through a contract with the North Shore Long Island Jewish Hospital System (NSLIJHS). Results of the *2014 Midshipman Values Survey* evaluated medical services as satisfactory with a rating of 4.14 out of 6.0 and also rated dental services at 4.21 out of 6.0 [EDR]. Other student related health services include:

- Counseling. MHEMS has two counselors available 45 hours a week. Visits are confidential. No information is released without the permission of a student. However, any diagnosis must be reported according to the USN Department of Medicine and Surgery (BUMED) and/or the USCG National Maritime Center (NMC) who require access to a midshipman's full medical history as part of the application process for commissioning and licensing. The health services staff confirmed that some students are reluctant to seek counseling for this reason [EDR: Counseling].
- Medical Clearance for Coast Guard Licensing Requirements. MHEMS plays a critical role in the USCG licensing process and the Armed Forces' commissioning processes, MHEMS must comply with medical standards included in the Code of Federal Regulations (CFR), the USCG Navigational and Vessel Inspection Circulars (NVIC), and the Manual of Medical Orders, U.S. Navy Bureau of Medicine and Surgery (BuMED).
- Midshipman Emergency Medical Services. MHEMS also supervises and operates the Midshipman Emergency Medical Services/USMMA EMS Squad, in a coordinated effort with the Great Neck Vigilant Fire Company (GNVFCO). USMMA receives training support from GNVFCO for dispatching the USMMA EMS Squad when calls for help are received. Academy EMTs also assume support positions as GNVFCO auxiliary members when possible, creating an unprecedented opportunity for midshipmen to serve the community in nearby towns. Close to 100 students have EMS certifications, having taken a credit bearing course and other training in order to qualify [EDR: EMT Syllabus].

- Other Support Services. MHEMS partners with the PE & A to enhance and exchange information between Health Service providers and athletic trainers regarding midshipmen health, injury status and recuperation progress. In addition, MHEMS work closely with the SARC in order to ensure that Health Service professionals are included in relevant training opportunities and are also involved in the reporting structure, when appropriate.

MHEMS continually monitors all aspects of their operations to assess their effectiveness. A Contracting Officer Representative closely monitors operations planned and executed by contract-employees.

Public Safety

The Academy is situated on federal property and, therefore, falls under federal jurisdiction. The Department of Public Safety (DPS), with a staff of 24, is responsible for crime prevention, reporting and initial investigation of criminal activity on campus; control of vehicle access and parking; key access and lock systems; intruder protection, use of computerized access control and internet based camera systems; and monitoring of the fire safety systems. Additional law-enforcement assistance is given, if necessary, by the Kings Point Police Department and Nassau County Police Department; investigative support is supplied by the Federal Bureau of Investigation. The main gate is manned 24/7 by DPS personnel. DPS is also responsible for all Academy access points and maintains a Command Center that contains feeds to all fire and access control systems as well as to the campus emergency phone lines. Routine patrols are conducted on foot and by car, with radio.

Two recent safety enhancements have been completed on campus to ensure the safety of midshipmen.

- Blue Light Call Towers. In 2013, six Blue Light Call Towers were installed on the campus. These towers initiate a video/audio call to DPS personnel, who monitor calls 24/7. The towers are installed in some of the Academy's more remote locations.
- Access Control System. In 2014, computerized locking devices were installed on all doors of the barracks/residence halls. The locking devices restrict access and entry only to those with authorized permission. This system is activated when an external door closes, and released when a midshipman or an authorized member of the staff and faculty uses a card to unlock the device.

DPS is also responsible for complying with the Clery Act by producing an annual campus crime statistics report. [EDR: Campus Crime Fire Safety Report]

Sexual Assault Prevention and Response

SI 2012-08, created in July 2012, sets forth the Academy's policy on Sexual Assault Prevention and Response [App. 4-8]. The policy enumerates procedures for reporting incidents as well as for educating and training all academy personnel and midshipmen. It also details responsibilities for the entire Academy community, including Superintendent and midshipmen. In addition, the Academy maintains a Sexual Assault Prevention and Response (SAPR) Program staffed by the SARC who ensures that there is effective prevention training, strict accountability for any incidents, a robust victim advocacy system, and an overall climate of confidence for victims to report incidents of sexual assault 24/7 [App. 4-8].

In April 2013, the House Committee on Oversight and Government Reform requested that the Department of Transportation Office of the Inspector General (OIG) conduct a comprehensive evaluation of the Academy's efforts to create a climate in which sexual assault and harassment are not tolerated. The OIG conducted its review between August 2013 and August 2014 and published the results of its audit on October 23, 2014. The report, *Better Program Management and Oversight are Required for USMMA's Efforts to Address Sexual Assault and Harassment* [EDR] delivered seven recommendations for improving the Academy's Sexual Assault Prevention and Response Program. As of this time, six of the seven recommendations have been implemented and cleared by the OIG. The remaining recommendation, to clarify lines of reporting for the Academy Sexual Assault Response Coordinator and the Civil Rights Director and define the position requirements for the SARC, is pending the update.

In January 2015, the AY 2013-14 *Biennial Survey and Report to Congress on Sexual Harassment and Sexual Assault at the United States Merchant Marine Academy* was submitted to Congress [EDR: 2011-12 and 2013-14 Sexual Harassment and Sexual Assault Reports]. This was the second report based on a formatted survey administered by the Department of Defense Manpower Data Center, and the survey results reflected a trend showing that midshipmen have gained trust and confidence in the ability of the institution to react to and resolve incidents of sexual assault. However, it should be noted that both reports contained disturbing statistics on sexual harassment at the Academy, a climate or culture the SARC is addressing.

Athletics

The Athletics Director, Head of PE & A, reports to the Superintendent regarding athletics and to the Academic Dean on academic matters. The Department of PE & A has many systems designed to help midshipman-athletes excel. With nearly all Academy midshipmen participating in some form of athletic activity, the overall goal of the department, as explained on its website, http://www.usmmasports.com, is to provide them with a broad range of varsity, intramural, club, and physical fitness activities that support the "total person" concept.

The USMMA Athletics program believes participation in athletics fosters "qualities such as leadership, industriousness, resourcefulness, loyalty, sportsmanship, cooperation and responsibility." Working under all NCAA Division III guidelines, the department also "encourages scholarship, sportsmanship, fair play and a sense of responsibility among all athletes, staff and spectators at all athletic events." The department currently uses a rubric to assess leadership learning, crucial evidence for the recent initiative to formalize leadership education across the campus [App. 6-6].

- **Varsity Sports.** The Academy offers 18 intercollegiate sports. These sports operate under the National Collegiate Athletic Association (NCAA) Division III rules and regulations. The Deputy Athletics Director acts as the compliance director. The Academy intercollegiate program is very popular with 49% of the midshipmen population participating in a varsity sport. The *2014 Midshipman Values Survey* found sports as one of the five "most liked" activities at the Academy [EDR: Quotes from Players and *Varsity Athletes Survey*].

In concert with the NCAA, the Academy PE & A Department has formed a Student-Athlete Advisory Committee (SAAC). The SAAC meets at least once a month, and often more, to discuss issues from the student-athletes' perspectives.

- Club & Intramural Sports. An average of 140 students participate in the 34 midshipman club sports. Anecdotal evidence points to strong satisfaction, evinced by students' participation in the variety of sports offered from rugby to water polo. Student writings discuss the support and satisfaction given by club athletics as well as the learning opportunities that arise [EDR: Students on Clubs].
- Resources. O'Hara Hall houses most of the athletic facilities: a gymnasium, an indoor swimming pool, weight and cardio rooms. The weight room facilities were upgraded with new equipment in 2011. The cardio room was recently outfitted with new treadmills, elliptical machines, and stationary bikes. Field Turf has been installed in Brooks Stadium and a new track surface in the summer of 2011. Additionally, the facility is lighted to allow for increased practice hours and recreational usage. The facilities are heavily utilized for team practices, sporting events, and recreational use. O'Hara Hall is in need of upgrades and more space to accommodate multiple activities and the weight room, according to the BRP, remains in need of renovations [EDR: *Blue Ribbon Panel Report*, *CIP Annual Report*].

Other Support Functions & Areas

Technology Support

IT provides technological support for students. Students can access the library and its numerous databases through their computers and laptops. The IT helpdesk provides maintenance and service for all student computer-related issues, which consumes a great deal of IT's staff time and resources. According to the *2014 Midshipman Values Survey*, students report relatively low satisfaction with the service [EDR].

Student Records Maintenance and Confidentiality

As per law, the Academy adheres to all provisions set forth under the Family Educational Rights and Privacy Act (FERPA). SI 2013-10, created in August 2013, outlines the rights of students according to the Act [App. 6-7]. Upon admission to the Academy, all students are informed of their rights under FERPA. All Academy personnel are responsible for complying with FERPA provisions and maintaining the integrity of students' records and information. Faculty and staff can receive training on FERPA through the DOT online Training Management System (TMS). In addition, the Academic Division periodically offers a webinar to the faculty and staff on FERPA.

Student Grievances

Student grievances within the Regiment are governed by the *Midshipman Regulations* which establish Academy policy governing the obligations, standards, and responsibilities of students [EDR: Midshipman Regulations]. The Office of the Commandant oversees and promulgates the *Midshipman Regulations*. Some grievances are addressed within Companies and students voice concern over whether Regulations are enforced with consistency and/or fairness across Companies. Students may also file a complaint with the Director of Civil Rights.

Other Grievance Procedures

- Honor Board and Related Grievances. Midshipmen accused of violating the Honor Code are subject to an investigative and disciplinary system managed by the Regimental Honor Board, an all-midshipman officer body selected by the Commandant; the Director of Ethics serves as their advisor. The *Honor Manual* describes Honor Code investigations and hearings, as well as the appeals process. As with the *Regulations*, students note a lack of transparency with regards to Honor Board decisions [App. 1-9, EDR: Midshipmen Values Survey]. A mechanism for explaining the basis on which decisions were taken might help alleviate such concerns.
- Academic Grievances. Midshipmen who are referred, by the Academic Review Board (ARB), for disenrollment (RFD) or leave of absence resulting from academic failure, may appeal those recommendations before the Academic Appeals Board. Appeals are heard before a three-person Board chaired by the Superintendent. The *Academic Policies Handbook*, updated annually, explains the process in detail, and also includes the policy for grade adjudication [EDR].

Self-Study Outcomes

Academic support mechanisms are systematic and effective. These supports are one key reason for rising retention and graduation rates and increasing GPAs. However, further resources for the ACE are needed so that it can expand its purview to include teaching as well as learning support services. Food services also require further study and improvement. Clubs and activities contribute to student well-being as well as student learning; the campus offers a wide array of clubs to suit just about any student interest. A newly hired Director of Student Activities is expected to promote the "dynamic campus culture" emphasized by the *USMMA Strategic Plan 2012-2017*. Athletics provides a needed outlet for students, a strong source of support and pleasure as well as valuable learning and leading opportunities. Positive systems are in place to assure student safety and to combat sexual assault, though sexual harassment remains an issue commanding the attention of the SARC. Addressing and regularizing enforcement of the *Midshipman Regulations* will lead to higher morale and sets a positive tone for leadership education.

Recommendations

- Broaden the ACE to encompass faculty professional development.
- Scrutinize results of food surveys collected by the Food Service Officer to analyze where problems with food selection lie. Make healthier options even more available during meal-times.
- Renovate and improve athletic/recreational facilities. Work in unison with alumni to secure funds with which to do so.
- Continue to educate the entire Academy community regarding sexual assault and harassment, with the hope of eliminating all incidents.

CHAPTER 7: MARITIME EDUCATION AND TRAINING

Standard 11: Educational Offerings

The institution's educational offerings display academic content, rigor, and coherence appropriate to its higher education mission. The institution identifies student learning goals and objectives, including knowledge and skills, for its educational offerings.

This chapter considers the Academy's programs and curricula in the Maritime Education and Training (MET) domain; General Education is addressed in the following chapter.

The Maritime Education and Training Program

The USMMA undergraduate program is extraordinarily demanding of its students and unique in the range of its requirements. Midshipmen complete a rigorous four-year academic program during three years in residence, spend approximately one year at sea as cadets aboard operating merchant ships (including up to 30 days aboard naval vessels for some midshipmen), perform regimental functions throughout the duration of their enrollment, fulfill requirements for commissioning as officers in the U.S. Navy Reserve or for active duty in one of the armed services, satisfy all requirements for the Bachelor of Science degree, earn multiple specialized certificates and endorsements involving ship and cargo operations, obtain a U.S. Coast Guard license as either Third Mate or Third Assistant Engineer aboard ocean-going ships of unlimited tonnage, and demonstrate their competence to assume responsibilities immediately upon graduation as Officer in Charge of a Navigational or Engineering Watch aboard multi-million dollar vessels.

The key elements of the USMMA maritime program are in-residence MET courses, the experiential learning resulting from the two at-sea training periods, participation in waterfront activities, and leadership skills developed in the Academy's regimental program. Chapter 8 discusses leadership development in the regimental context.

Professional Curricula

The Academy's MET program includes carefully structured, integrated curricula in marine engineering, nautical science, and maritime business. MET professional courses, meaning those leading to a USCG license, total 59.5 credits for deck-license midshipmen and 80 credits for engine-license midshipmen. Total semester-hour credits for the Bachelor of Science degree at the USMMA range from 163 to 177, including non-resident credits earned during the Sea Year [EDR: Course Catalog].

The first decision to be made by incoming students regarding their studies is which of the two broad professional tracks to follow: Deck or Engine. The former leads to a license as Third Mate; the latter, to a license as Third Assistant Engineer. Having made this selection, midshipmen then choose their course of study from among the following five academic majors:

Deck

- *Marine Transportation*: A program combining nautical science and maritime business management. 164 total credits.
- *Maritime Logistics and Security (ML & S)*: A program combining nautical science, business, logistics, and maritime security topics. 170 total credits.

Engine

- *Marine Engineering*: An engineering program focused on shipboard engineering operations. 163 total credits.
- *Marine Engineering Systems (MES)*: An engineering program emphasizing marine engineering systems design, operations, and maintenance. Accredited by the Engineering Accreditation Commission (EAC) of ABET. 174.5 total credits.
- *Marine Engineering and Shipyard Management (MESM)*: A program based on a marine engineering core and emphasizing the management of shipyards and other large engineering endeavors. ABET accredited. 177 total credits.

These five majors are overseen by the Academy's two degree-granting departments: Marine Transportation and Marine Engineering.

Department of Marine Transportation (MT)

Both majors in the department contain nautical science and business components and emphasize "hands-on" learning and the acquisition of practical skills. Midshipmen learn through simulation, the Sea Year, seamanship labs, underway ship handling and navigation practice aboard Academy training vessels, case study work, applied research projects, and internships.

Core curriculum courses provide midshipmen with nautical science and management skills, as well as knowledge of the transportation processes necessary for successful careers in the maritime industry. The core includes courses in navigation, seamanship, marine safety, dry and liquid cargo operations, integrated navigation systems, meteorology, management, law, economics, transportation, logistics, and port operations. [EDR: Curriculum; App. 7-1; EDR: Syllabus NAUT 215

The department prepares midshipmen in deck programs to take the USCG license examination for Third Mate of Ocean Steam or Motor Vessels of Any Gross Tons and also ensures that midshipmen are properly assessed and qualified for various internationally-required endorsements.

MT faculty conduct research on topics related to marine transportation, logistics, intermodal transportation, and security. Faculty collaborate with students on applied research projects for industry and government organizations undertaken in the logistics capstone course and in the Maritime Security Research Seminar.

The department supports various industry and government initiatives in nautical science, logistics, and maritime security. Departmental faculty have planned and staged major conferences, participated in academic seminars and industry forums, provided expert opinion to the media, developed model courses for the IMO, chaired interagency committees, served on U.S. delegations to international intergovernmental meetings, and testified before Congress [EDR: MT Program Review].

Department of Marine Engineering (ME)

Students enrolled in the Academy's engineering programs become credentialed merchant marine officers as well as competent engineers who have the ability to serve in various shore-side sectors of the marine engineering industry.

All three majors offered by the department include a combination of fundamental engineering science courses and courses that cover the theory and practice of marine engineering. In addition to teaching core engineering courses in all three engineering programs, the department offers elective courses in relevant engineering topics. Some of these courses can be grouped to enable midshipmen to concentrate on a particular area of interest. Hands-on learning experiences include practical knowledge obtained during the Sea Year, underway engineering operations aboard various Academy training vessels, and the use of simulators to replicate main propulsion diesel engine and complete propulsion steam plant operations [EDR: Curriculum; App. 7-2; EDR: Syllabus ECME 105].

ME supports numerous constituencies/stakeholders, including the employers of engineering program graduates, the maritime industry in general, and all branches of the U.S. Armed Forces. The department has very strong and close relations with the maritime industry and actively supports various industry and government initiatives. Since 2002 the department has been inviting industry leaders to participate in the Engineering Industry Advisory Board (EIAB) hosted every one to two years. Due to government regulations, the EIAB was dissolved at the end of 2009 and replaced by an informal Engineering Industry Roundtable (EIRT). Over seventy leading managers and professionals from shipping companies, shipyards, engineering and consulting companies, universities, and the U.S. Government (Navy, USCG, and MARAD) have participated over the years. Departmental faculty have provided expert opinions to the media through the Office of External Affairs.

In addition to the three undergraduate engineering programs, the Department of Engineering is responsible for the Academy's online Master of Science in Marine Engineering (MMarE) Program. The department also oversees the Academy's Alternative Power Program through which midshipmen can undertake independent studies on such topics as energy conservation, environmental protection, and the use of alternative fuels [EDR: Marine Engineering Program Review].

Sea Year

One of the pillars of the USMMA MET program is the Sea Year experience. The Office of Shipboard Training in the Department of Professional Development and Career Services is responsible for assigning midshipmen and monitoring their progress as cadets aboard merchant vessels during two at-sea training periods totaling 300 days for engine cadets and 330 days for deck cadets. The Regiment of Midshipmen is divided into two primary "splits," with the result that the Sea Year periods are staggered for a given class; while one split is at sea, the other is in residence. Midshipmen have access to some 530 ships owned and operated by some 33 different companies, the Navy and the USCG [App. 7-3].

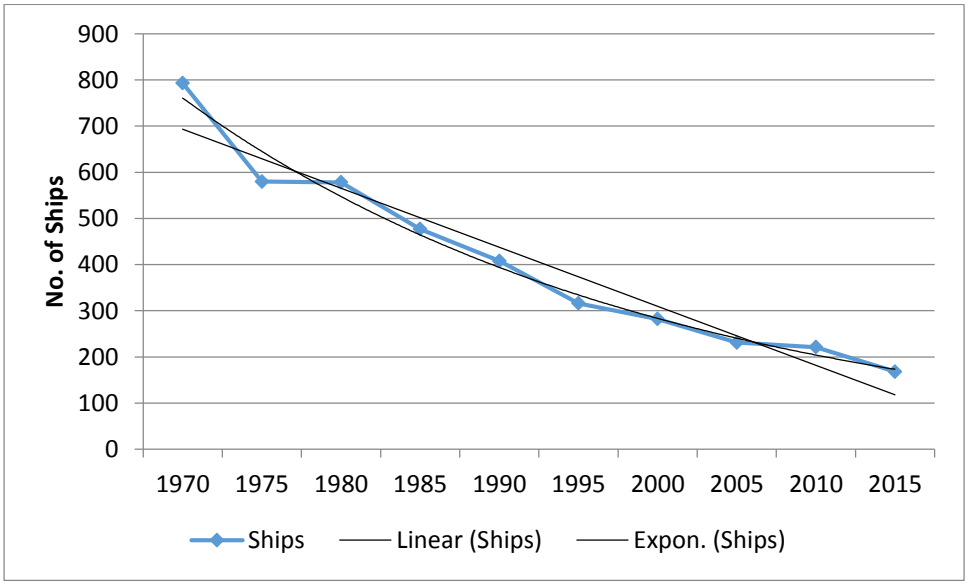
During the Sea Year, midshipmen work on ships under the guidance of experienced mariner officers. Aboard ship, marine transportation majors are assigned to the vessel's Deck Department,

and engineering majors to the Engineering Department. The Sea Year Program is designed to help develop the technical, practical, and social skills required of a highly trained professional in the maritime industry.

While aboard their assigned vessels, cadets also complete comprehensive sea projects, which are assessed upon their return to the Academy. Sea project courses concentrate on professional subject matter appropriate to each midshipman's major, structured to ensure that midshipmen, while at sea, apply the knowledge and skills learned in USMMA classrooms. Cadets hereby acquire a firm foundation upon which to build more advanced study when they return to the Academy. In addition to the written assignments, midshipmen take oral and written examinations after they return from sea. Sea projects account for 20-22 semester-hour credits, depending on academic major [App. 7-4; EDR: Sample Sea Project].

The Sea Year program currently faces a major challenge: the rapidly declining number of privately owned U.S.-flag ships, as illustrated by Figure 7-1. This shortage impacts the Academy Training Representatives' (ATRs) ability to place midshipmen on suitable ships despite the presence of a robust government-owned fleet. The challenge is accentuated even further for two reasons. One is the increasing enrollment at the six state maritime academies whose students compete for the same opportunities, especially during the summer months. Secondly, some shipping companies fail to comply with the federal requirement to provide experiential learning opportunities to USMMA midshipmen. Both these issues merit MARAD's attention.

Figure 7-1 – Trend Analysis: U.S.-Flag Private Fleet, 1,000 Gross Tons+ (1970-2015)



Source: MARAD Data (http://www.marad.dot.gov/library_landing_page/data_and_statistics);

Internships

The second sea period includes an internship assignment ashore where students observe and participate in the management and operations of a maritime, transportation, or engineering organization. Optional internship assignments are also available with shore-based commands of the U.S. Armed Forces. Depending upon a student's field of specialty and interest, he or she may

choose, for example, a shipping company, shipyard, ship chartering firm, logistics company, marine surveyor's office, towing company, port and terminal facility, military organization, or similar enterprise. For the midshipman, the process of finding an internship is consistent with the process of finding employment. Networking, cold calling, and résumé writing are some of the skills exercised by the midshipman researching and setting up his/her own internship under the guidance of the ATRs.

Successful completion of an internship is a graduation requirement. Internships can range from two to six weeks in length and carry one credit hour for a two week internship and three credit hours for a six week internship.

As part of the internship experience, each midshipman is required to prepare a written report including discussions of the following:

- Organization's background and history
- Business organization
- Decision-making process and procedures
- Operating and communicating procedures
- Management work ethic
- Schedule of activities (midshipmen list, in chronological order, all interviews, projects and events in which they participated during their internship)
- Conclusions: midshipmen describe how their experience with the hosting organization has contributed to their maritime education and ability to better serve as a ship's officer.

ATRs use a rubric to evaluate the professional writing skills of midshipmen [EDR: PDCS Turnitin rubric].

Waterfront Training

The Department of Waterfront Operations and Training promotes midshipman leadership training and professional development through the use of waterfront resources. They operate the Academy's training vessel and fleet, the Yocum Sailing Center, and waterfront professional, varsity, and recreational programing.

The department's fleet of sailing and power vessels enable leadership, seamanship, and small-craft operating skills development. The department is also responsible for executing the USMMA Safety of Life at Sea (SOLAS) course, which is taken by all midshipmen.

The Waterfront department has a dedicated staff of 12 that gets midshipmen underway aboard Academy vessels and develop their professional skills. While it is successful in achieving this objective, it is challenged by having the smallest waterfront staff in many years and a greatly increased workload stemming from such items as added SOLAS instruction, implementation of a required Safety Management System, and maintenance/repair of deteriorating infrastructure [EDR: Waterfront Program Review].

MET Curriculum Standards and Learning Objectives

The Academy develops Academic Division goals, departmental mission statements, program-level educational objectives, and course-level student learning objectives that encompass knowledge and skills consistent with the requirements for USCG licensure, internationally-required certifications and endorsements, and Naval Reserve commissioning [EDR: Academic Goals Course Matrix]. These goals and objectives are created with recognition of the fact that many midshipmen, following an initial career at sea or in the military, assume positions of responsibility in shoreside maritime-related industry and governmental organizations. AD goals, departmental learning goals, and individual course goals are discussed in greater detail in Chapter 9.

The IMO systematically and precisely defines the capabilities that must be possessed by mariners serving in various capacities. Most important in this connection is the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (1995, as amended), known as STCW. The IMO articulates the "competences" that vessel personnel must demonstrate and delineates the knowledge, understanding, and proficiencies that comprise those competences. Finally, the methods and criteria for assessment are also specified by the IMO [App. 7-5].

The requirements of IMO conventions are translated into U.S. regulation by the USCG. The USCG also imposes uniquely national standards on the training and credentialing of merchant mariners. MET curricula at the Academy are thus carefully prepared to ensure that the course of instruction is fully consistent with these international and national requirements especially since the Academy's MET programs are subject to USCG review and approval.

In September 2007, SI 2007-18, "Midshipman Program Baseline and Review (PBR)," was issued for the purpose of identifying all subjects, skills, or competences externally mandated by convention or regulation and needed to enable midshipmen to secure graduation documents (USCG License, Bachelor's Degree, and USN Commission) [EDR]. More recently, major revision of the STCW convention and code by the IMO was concluded in Manila in 2010. The new requirements of the so-called "Manila Amendments" combined with the PBR tasking resulted in the development of a new curriculum for the classes of 2017 and beyond as well as a modified one that "bridged" the gap between the old and new STCW requirements curriculum for the classes of 2014 through 2016. As outlined in the 2013 USCG approval letter for the USMMA MET program [App. 7-6, EDR: STCW2010 Program Approval], both the new and modified programs met the revised STCW requirements very eminently.

Following revision of the STCW convention and code in 2010, the USMMA was the first maritime academy in the country to submit its revised MET program to the USCG for approval, and may have been the first MET institution in the world to satisfy the requirements of the Manila Amendments. Beyond complying with the new STCW standards, courses in the new curriculum were re-sequenced to provide midshipmen with more MET education and training before the at-sea training periods in order to enhance experiential learning aboard their vessels. The re-sequencing allowed for a more logical flow of topics than did the old curriculum, which did not address some fundamental topics until the senior year.

In addition to addressing applicable international and national regulatory mandates, the Academy strives to be responsive to changes in the maritime industry and the evolving needs of employers.

These developments have led to many course and/or curriculum adaptations, the acquisition of new equipment, and the development of new facilities. The ME has added new course content in response to industry developments, including fuel-cell technology, modern ship construction techniques, and innovations in nuclear power and gas turbine technology. MT has added material to expose midshipmen to new marine technology, equipment, and operational approaches in such areas as marine materials handling, pollution control and prevention, maritime communications, and integrated electronic navigation systems (RADAR, ARPA, and ECDIS).

In 2013, some ocean carriers in 2013 insisted that USMMA cadets obtain a higher level of security endorsement than that required by STCW and USCG regulation. The Academy satisfied this request on extremely short notice by hiring qualified contractors to conduct the desired Vessel Personnel with Designated Security Duties (VPDSD) training. This course has since been submitted to and approved by the USCG for delivery by the USMMA faculty; it is now being integrated into the curriculum and will be completed by all midshipmen before they go to sea for the first time.

Through elective courses, the USMMA maritime education program also offers a variety of endorsement options such as Tankerman PIC (Person in Charge), Fast Rescue Boat certification, Medical PIC, and others that help students meet specialized industry needs and increase their attractiveness to potential employers. Beginning in AY 2015-16, midshipmen enrolled in the Maritime Logistics and Security major will receive the highest-level STCW security endorsement from the USCG upon their successful completion of the new Vessel Security Officer/Company Security Officer course, which has been submitted for approval by a USCG-approved Quality Standards Systems (QSS) organization.

Faculty interaction with the USCG, other government agencies, and maritime industry personnel through participation in conferences, seminars, professional training, outside consulting, and sabbaticals has allowed the institution to remain current with regard to changes in technology, equipment, rules and regulations, and their impacts on companies and personnel in the field. Unfortunately, reduced funding for some of the above-mentioned activities as well as the closing in 2012 by U.S. DOT of the USMMA Global Maritime and Transportation School (GMATS, the former continuing education unit) has reduced faculty and staff access to such interactions. This is potentially problematic for efforts to maintain leading-edge education and training and to maintain the institution’s prominent reputation on the global MET stage.

In addition to the above-described standards pertaining to the USMMA curriculum, the Academy has well-defined policies concerning the evaluation and acceptance of transfer credit from other institutions. Certain courses, such as those in the humanities and business domains, taken at other regionally-accredited institutions prior to attending the Academy and successfully completed with a grade of "C" or better will be considered for exemption if the course is equivalent to a required course in the Academy's curriculum. Neither the credit hours nor the grades earned are transferable. Departmental examinations as a basis for exemption may be given where non-academic experience appears to provide a basis for successful completion of such an examination. Department-specific policies and procedures related to exemption from other courses are outlined in the *Academic Policies Handbook* [EDR].

Master of Science in Marine Engineering Graduate Program (MMarE)

The MMarE program is a 36-credit, 12-course program offered through a blending of online synchronous and asynchronous sessions to deliver the course content. The program is built around seven core courses and five elective courses. Courses are offered year-round using a traditional semester timeline. There are currently 22 students enrolled in the MMarE program.

The program goals specify that students shall:

1. Demonstrate advanced level knowledge in core marine engineering subjects
2. Become proficient in new tools such as computational fluid dynamics topics
3. Expand their knowledge of specialized topics related to marine technologies
4. Creatively apply knowledge to address challenges facing the marine community
5. Understand the technical, political and social dynamics that impact on the discipline of marine engineering

Given the practice-based orientation of the MMarE program, most courses include a project that is structured to meet the learning goals of the course and that requires independent thinking on the part of students. Beyond the offered elective courses, students may opt for a three-credit design project or six-credit thesis, in lieu of a comparable credit load of elective course work. These options inherently require independent thinking and offer the greatest opportunity for advanced research.

The faculty in the MMarE program is comprised of 14 professionals with decades of engineering experience, many of whom having also had distinguished teaching careers. Four of the 14 MMarE faculty are full-time USMMA faculty who teach in the undergraduate program. The other ten are faculty members from other institutions, retired USMMA faculty (all of whom are emeriti), or industry experts contracted as Adjunct Professors. Of the 14, nine possess terminal degrees, nine are Professional Engineers, four hold U.S. mariner credentials and one was a U.S. Navy Engineering Duty Officer [EDR: MMarE Catalog].

MET Learning Resources

Simulation and Labs

The operation of modern merchant ships is highly technical and dependent on sophisticated technology. It is critical that officers in training have the opportunity to gain experience in vessel and machinery operations without risking millions of dollars in property damage, environmental catastrophe, and human injury or fatalities. The USMMA has thus invested in simulation and laboratory equipment to meet this need.

USMMA simulation equipment for MET includes the Computer Aided Operations Research Facility (CAORF) Full Mission Visual Bridge Ship Simulator (VBSS), Integrated Navigation Labs in Bowditch Hall, Marine Transportation Simulation Laboratories, a Global Maritime Distress and Safety System (GMDSS) Simulator, the CAORF Machinery Control Simulator (Medium Speed Diesel), and the CAORF Steam Simulator [App. 7-7]. In addition, the acquisition of a Towing and Dynamic Positioning simulator has been proposed in order to help keep abreast of recent industry changes.

As noted elsewhere in this report, the cost of maintenance contracts associated with these simulators is nearly $200,000 per year. Some of this equipment is beyond its cost-effective life span. The USMMA Financial Plan does not address the replacement of simulation equipment, which is a serious deficiency. Although the Academy has developed a coherent plan for the regular upgrading and replacement of simulation systems, the lack of dedicated funding for this purpose puts at risk the continued effectiveness of MET at the USMMA [EDR: Simulation Plan]. The President's FY 2016 budget request includes dedicated funds for upgrading the simulation technology which is a very positive development.

The Academy maintains a wide variety of laboratories for marine engineering, including diesel engines, steam and gas turbines, pumps, valves, auxiliary equipment, refrigeration, thermodynamics and heat transfer, fluid mechanics, materials testing, metallurgy, a machine shop, welding and pipe fitting, electrical machinery, electric circuits, electronics, controls, engine-room simulation, and graphics. These labs give midshipmen numerous opportunities to experience the connection between theory and practice, and enable them to receive hands-on training in the operation and maintenance of vessels and marine machinery.

Training Vessels and Equipment

A dedicated training ship and an impressive array of smaller crafts are maintained by the Department of Waterfront Operations and Training. The 176-foot long TV *Kings Pointer* once served as a Solid Rocket Booster Recovery Vessel for the National Aeronautics and Space Administration (NASA) and has supported midshipman training since September 2013. Other vessels used for training and recreational purposes include the 108-foot TV *Liberator*, the 60-foot TV *Elizabeth Anne* (a recently-acquired tug), 60 intercollegiate dinghies, 6 Sonar keelboats, 20 training/support vessels, and 20 rowing shells. A barge has been identified for use in towing training and is currently in the process of being transferred to the Academy.

Other waterfront assets include the Yocum Sailing Center, the Prosser Boathouse, 2200 feet of docks and piers, a 50-ton Travelift, two mobile cranes, and nine acres of basin and upland area.

Bland Memorial Library

The Schuyler Otis Bland Memorial Library is the Academy's major information resource center and is an asset for MET. The library's holdings include approximately 181,000 books and some 12,000 periodicals. It boasts recently enhanced online systems and databases. The library supplies midshipmen, faculty, and staff with a wide range of materials and services, which can also benefit visiting researchers. There is seating for 300 users, including special conference rooms and study areas. During AY 2013-14, the library logged 57,326 visitors.

Designed to support the curriculum, the library collection provides a broad range of information on the subjects taught at the Academy, with the most extensive concentration of information and special collections on modern maritime subjects in the United States.

The library has online access to over 45 reference databases in many disciplines, including science, technology, the social sciences, and the humanities. Holdings include full texts of newspapers and many types of government documents. As part of its broad role as a resource center, the library also serves as a conference site for Academy programs. The library's elegant Crabtree Conference

Room hosts a wide variety of maritime and scholarly activities attended by midshipmen, faculty, and staff.

Since 2012, a number of major upgrades have been made in the library. Implementation of a new integrated online library system (Sierra WebPac/Encore Global Search system) has just been completed as of March 2015. In April 2014, the library upgraded to OCLC's new WorldShare Interlibrary Loan system, which provides fully automated management of interlibrary loan requests from and to USMMA. Links providing electronic access to relevant journals on the library's Periodical Holdings List were added in 2012-2013.

New journal and electronic database subscriptions continue to be acquired and feedback from surveys indicates high customer satisfaction with library services. Midshipmen responses in a library-conducted student survey in March 2013 indicate widespread student use and approval of the quality of resources and services. 88% voiced their approval of the quality of library services. Similarly, 81% of the respondents found resources either "helpful" or "very helpful" for their coursework. Students liked the library's offering of PC's and printers, and the free coffee and tea in the evening. They also liked the individual and group study rooms. A total of 70% found the library's reference databases useful. Faculty members also gave the library high marks for its staff, services, and resources.

The library has an information literacy program for midshipmen but is currently challenged by the January 2015 retirement of both its Chief Librarian and its Reader Services Librarian who formerly oversaw the program [EDR: Library Program Review]. A well-qualified and highly dedicated staff of seven remains, but is severely burdened by the need to perform functions that were handled by the now-retired senior staff members. The library also faces space constraints and budgetary challenges stemming from increases in the price of periodicals and online information resources, which are rising at six to seven percent per year.

Computer Literacy

Computer literacy is critical for mariners. Merchant vessels are highly automated and many of the software applications available in shoreside industries are also utilized at sea. Merchant marine officers must have the knowledge and ability to efficiently utilize computers and related technology. Plebe candidates arrive with substantial computer skills, which are reinforced in courses requiring the use of word processors, spreadsheets, PowerPoint presentations, AutoCAD applications, Internet research, and simulators. Each entering Plebe candidate must have a laptop for use in residence at the Academy and during cadet shipping periods. While midshipmen receive some introductory coverage on cybersecurity related topics during their course of instruction, recent developments have elevated industry concerns in this regard. The AD is currently exploring options to augment related education and training, and address this emerging concern in global maritime commerce.

MET Program Effectiveness and Validation

Assessment of student learning is discussed in depth in Chapter 9. This section highlights the key measures of MET program effectiveness and their use in program review and revision.

Audits

46 CFR Section 10.410 [EDR] requires that "Providers of Coast Guard-approved courses, programs, training, and Coast Guard-accepted training creditable towards an STCW endorsement must establish and maintain a Quality Standard System (QSS), in accordance with Regulation I/8 of the STCW Convention." SI 2013-07, "STCW Procedures Manual," discusses the QSS environment and other dimensions of the USMMA STCW program [App. 7-8].

The USMMA adherence to MSCHE standards and the Academy's program-level/course-level outcomes and assessment processes are consistent with the USCG QSS requirements outlined in the CFR. External audits of the MET program are conducted by a joint USCG/MARAD review committee at five-year intervals (the next being in Fall 2015). Additionally, internal STCW audits are required and are conducted periodically. These audits are used to verify that the approved STCW program continues to meet quality standards and does not require monitoring by a third party USCG-accepted QSS organization. Feedback from the USCG indicates that the Academy not only meets, but exceeds applicable regulatory requirements for the education and training of merchant marine officers. Meeting the rigorous QSS requirements of the USCG is analogous to compliance with the accreditation standards used to certify the quality of other professional programs in higher education and industry.

Program-Level Accreditation

Other external organizations review the Academy's programs and provide approval and/or accreditation. Both the MES and MESM programs are accredited by ABET's EAC, which ensures that they meet minimum standards for the Bachelor of Science degree in engineering and the basic educational requirements for the Professional Engineer license. ABET visited in Fall 2011 to reaccredit both programs. All three ME programs are nearly identical in content; however, the third program, Marine Engineering, is not accredited by ABET because it substitutes design-bearing courses with non-design-bearing courses and free electives.

In MT, the logistics program has been evaluated by the American Society of Transportation and Logistics (AST & L) and found to be consistent with the education and certification standards of that organization. Those who graduate from the USMMA logistics program can obtain a highly regarded industry certification ("Certified in Transportation and Logistics, CTL") from AST & L without the intensive series of examinations required of industry practitioners.

Fundamentals of Engineering (FE) Exam

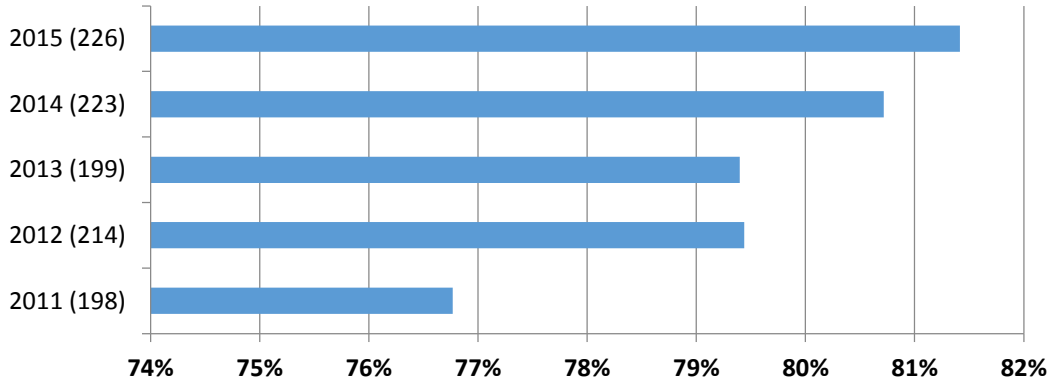
Many engineering seniors elect to take the Fundamentals of Engineering (FE) exam, their first step toward licensure as a Professional Engineer. The exam is prepared by the National Council of Examiners for Engineering and Surveying (NCEES) and is considered a valid direct measure of student learning in an engineering degree program and a measure of minimum competency needed to enter the engineering profession. In New York State, students in an ABET-accredited program may take the FE exam during their senior year. A comprehensive report is prepared by the Academy's FE Exam Coordinator [EDR: FE Assessment Report]. However, although only midshipmen in the MES and MESM programs may take the FE Exam prior to graduation, because the majority of the engineering courses are common to all three undergraduate engineering programs, changes made to the curriculum based on FE Exam results benefit all engineering

midshipmen. The FE Exams are now given every other month during the academic year starting in October.

USCG License Exams and License Seminars

One direct measure and the most important MET program outcome is the USCG license exam that must be passed by each midshipman. Assuming that all other requirements (physical exam, drug test, etc.) are met, passing this exam results in the issuance of a merchant marine officer's license as either Third Mate or Third Assistant Engineer. These exams are rigorous and intensive, and consist of seven modules, each three and half hours long, administered over a period of three and half days. The minimum required score for passing is 70% in each module for the Engineering students while the Deck students must receive 90% in two, 87% in one, 80% in another, and 70% in the remaining three modules. All seniors must complete the exams successfully prior to their graduation. Both degree granting departments maintain aggressive targets for successful first-attempt completion; the combined outcomes for the past five years are depicted in Figure 7-2. The figure in parentheses next to each AY is the total number of midshipmen. The Academy aims for 100% success in license exams for all eligible seniors prior to the date of graduation, another metric that the AD has successfully met over the years.

Figure 7-2 – First Attempt Full Pass Rates (%), 2011-2015



Sea Year Evaluations

An integral part of the success of the Sea Year program is the fact that professional, practicing merchant marine officers evaluate the performance of each midshipman under their supervision every 45 days. As these supervising ships' officers are independent of the Academy, they are dispassionate and impartial appraisers of cadet performance. These evaluations are a direct measure of the Academy's MET program effectiveness. The two-page report, "Shipboard Performance Evaluation," captures candid observations by seagoing officers of cadet competencies ranging from fire-fighting to personal safety and from social responsibility to professional development and progress [App. 9-11]. Each report is signed by the reviewing officer and then by the ship's Master (or, "Captain") who concurs, modifies, or disagrees. These evaluations are then provided to the Academy to be reviewed by a representative from the Office of Shipboard Training. These periodic evaluations are invaluable tools for identifying weaknesses, strengths, trends, and anomalies. Identified weaknesses are forwarded to the appropriate USMMA department for appropriate analysis and action [EDR: PDCS Evaluations].

Capstone Projects/Student Research

Capstone projects validate the strength and rigor of MET programs as well. These projects constitute the major design experience in MES and MESM, while another design experience is embedded in the Thermal Analysis of Marine Power Plants ME course [App. 7-11, EDR: ME Capstone Project]. Students in ML & S conduct applied research projects for a variety of government and private-sector entities [App. 7-11, EDR: MT Capstone]. Those enrolled in the Maritime Security Research Seminar course tackle projects that involve challenges faced by such organizations as the FBI, USCG, Alion Science and Technology, and the Port Authority of New York & New Jersey.

Such projects provide the sponsoring organizations with a mechanism – and enthusiastic talent – through which to gain short-term applied research findings on specific engineering, transportation, logistics, and security issues. They offer midshipmen the opportunity to contribute to the resolution of real-world challenges; develop leadership and teamwork skills; "learn by doing"; and apply acquired knowledge in the service of government and industry needs. These projects also expose midshipmen to experienced personnel and role-models in the technology, port/maritime operations, regulatory, and supply chain communities who will broaden and deepen their understanding of the industry.

Furthermore, since these projects typically culminate in formal presentations by teams of midshipmen at the end of the term to panels consisting of external stakeholders in key positions, they provide yet another very effective direct measure of student learning. The feedback from panel participants is constructive, favorable and serves to confirm that USMMA educational programs maintain the depth and rigor expected by the industry.

Graduate Placement

Graduate placement data also provide insight into the favorable perceptions of industry concerning the content and rigor of the Academy's MET program. Employment statistics for the last several classes indicate that graduates easily find quality jobs in their fields of study [App. 7-10]. For example, six months after graduation, the Class of 2014 was employed as follows:

Active Duty Military	14.6%
Maritime Afloat	77.1%
Maritime Ashore	4.6%
Graduate School	0.0%
Undecided	3.7%
Total:	100.0%

There is perhaps no more compelling evidence of the rigor and effectiveness of the Academy's MET program than the fact that almost all USMMA graduates are consistently employed in competitive positions well within six months of graduation.

Alumni Surveys

The 2014 Alumni Survey indicated that graduates from the classes of 2003, 2008 and 2013 are pleased with their education and feel well prepared for a variety of professional positions. For example, 92% of respondents rated their USMMA education as effective (good or excellent) in

preparing them for their careers. Respondents also felt well prepared for working in teams and for positions aboard vessels and ashore.

The 2014 survey results demonstrate a high level of alumni satisfaction with the extent to which their education prepared them for leadership roles (85.3%) and for pursuit of continued intellectual and professional development (93.3%). Collectively, USMMA alumni are evidently satisfied with their education and how it has prepared them for professional positions [EDR: Alumni Survey 2014].

Self-Study Outcomes

The USMMA MET curriculum is an integrated and rigorous one that satisfies all applicable regulations and standards. Learning objectives for the MET curriculum are clearly articulated and are based on program, departmental, divisional, and institutional missions and goals. Suitable learning resources for MET purposes are available. The MET curriculum was recently overhauled in response to international maritime training convention amendments and an extensive internal baselining initiative. New curriculum sequencing and content will better prepare students for the Sea Year experience as well as for their courses on campus. Midshipmen are educated and trained in the use of information technology through their coursework, during their Sea Year, and by a library program discussed further in the next chapter. However, there are increasing concerns about cybersecurity-related issues in the industry. This is an area that the Academy should explore and integrate in the constantly evolving educational needs of merchant mariners.

The MET program is subject to regular external and internal review and validation. A variety of internal and external measures of MET program effectiveness are utilized to validate, refine, and enhance the program. The Academy is responsive to industry needs in shaping and revising the MET program, but budgetary constraints threaten access to interactions with industry. Feedback from maritime industry professionals and alumni indicates that the USMMA MET program is successful in meeting its objectives. Graduate employment placement is nearly 100% within six months of graduation.

Recommendations

- Facilitate increased interaction with the USCG and the maritime industry through participation in conferences, seminars, professional training, and sabbaticals.
- Ensure continuation of dedicated funding for simulation equipment upgrades and replacement to ensure a timely response to new training requirements.
- Reestablish a continuing education program as a cost-effective means to provide training for faculty and staff by industry experts and to acquire input from instructors and participants for use in enhancing the MET program.
- Strongly advocate the continuing need for experiential learning opportunities for midshipmen on board all U.S.-flag commercial ships; in particular, from those that are federally mandated to provide them.
- Explore the integration of fundamental shipboard cybersecurity concerns in the new MET curriculum.

CHAPTER 8: GENERAL EDUCATION & RELATED EDUCATIONAL ACTIVITIES

Standard 12: General Education

The institution's curricula are designed so that students acquire and demonstrate college-level proficiency in general education and essential skills, including at least oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, and technological competency.

The USMMA offers a broad array of general education opportunities – inside the classroom and out. Students hone their general education through specified courses, coursework within the majors, and at sea. But, they also have the chance to employ and enhance these skills in the Regiment, as they lead teams, deliver speeches, and solve problems in their assigned duties as officers. General education learning is therefore infused into but also arises out of the majors, as a survey of the curricular mapping of our designated general education goals indicates [EDR: Academic Goals Course Matrix]. The specific Academic Division goals that foster general education skills include:

- Think critically and creatively and solve complex problems
- Communicate proficiently both orally and in writing
- Demonstrate information literacy and proficiency in the use of information technology
- Understand and function effectively in the socially, economically, politically and culturally diverse global environment
- Pursue continued intellectual and professional development [App. 1-1]

As required under the current curriculum, all students take a series of courses to prepare them for their major as well as life-long learning. With a curriculum heavily oriented towards developing the technical skills and proficiencies of its graduates, the general education requirements place a strong emphasis on critical thinking, quantitative reasoning, and technological competency. Students enrolled in the three engineering majors must take 41 credit hours of general education and those in the two marine transportation majors must take a total of 37 credit hours. This critical balance of offerings meets the general education requirements by providing students with the skills and ability to advance their careers and lives in an ever-changing global environment [App. 8-1].

General Education in the Current Curriculum

Background

As shown in the previous chapter, USMMA academic programs are rigorous, with four years of course-work subsumed into three full years of in-residence studies. The current curriculum, implemented in 2013 for the class of 2017, was designed to reduce the students' onerous credit-hour load. After four years of review and study of the curriculum, the Academy adopted curricular changes that significantly improved the professional programs. With regards to general education, however, the process was contentious and the final decisions were not unanimous. Chapter 4 discusses development of the curriculum in more detail. In fact, the final structure of the new curriculum in which two humanities courses, Modern American History and Topics in History and Literature were eliminated, was an executive decision made by the then Superintendent.

The *CPC Report* contains several reservations voiced by faculty about the above reduction [App. 4-2]. Nevertheless, even with fewer humanities courses, the Academy's two departments primarily engaged in delivering general education provide a strong basis for students to develop and refine general education skills across the curriculum, in their majors, at sea and in co-curricular activities as well. For example, a course for ME majors in Technical and Professional Communications was added to the new curriculum. Also, MT majors take a three credit hour elective in Humanities (HUM) as part of their new general education requirements. Finally, the revised curriculum opens up new options for concentrations in general education as well as major-specific areas. Each academic department has been tasked with developing a concentration. Students thereby have the choice to take an additional nine credits in M & S or HUM, in order to pursue continued intellectual and professional development in areas of interest outside of their major. This element of choice, it is hoped, will prove particularly welcome to students who have little say over their course selection otherwise; the option can further broaden intellectual horizons for those motivated to do so.

General Education – Academic Division

The majority of courses designated as the core curriculum for general education are taught within M & S and HUM. These courses challenge students' intellects. Sometimes they are prerequisites to courses in the major, as in the case of Physics and Calculus. In other instances, the courses allow students to think outside the box, to learn about the experiences of others through interpreting literature, or to study other cultures and periods in history. Students can then apply skills and knowledge to their major in oral presentations, writing assignments or case-study analysis, be it in a logistics, engineering, or nautical science courses.

Math and Science

The nature of all programs at the Academy necessitates M & S courses that provide a strong foundation for technical disciplines. Many courses in the ME and MT departments, both practical and more theoretically-oriented, require advanced understanding of mathematics, physics, and chemistry. M & S also helps students to acquire the necessary combination of conceptual and analytical skills as well as of qualitative and quantitative understanding so crucial for the technology-driven career demands of marine engineers. The department also teaches statistical methods and programming, indispensable knowledge in today's world.

M & S emphasizes critical and quantitative approaches to complex problem-solving. Students also develop hands-on understanding of science and modern technology in courses with laboratory components. Both practical and theoretical skills are transferable and applicable in almost every aspect of life, including subsequent higher education. Such department goals as "develop conceptual understanding of math topics," "develop technical skills for solving problems in math topics," "develop ability to program, use computational software and apply numerical methods" and others demonstrate how M & S support general education goals in the AD [EDR: Math and Science Program Review].

Within the general education requirements for ME majors, 25 of the 41 credit hours are in M & S. ME students take Calculus 1 and 2, Probability and Statistics, and Differential Equations. They also take General Chemistry, Chemistry for Marine Engineers and Physics (1 and 2) with MES majors

required to take Physics 3 as well. MT majors take all of the same courses with the exception of Marine Chemistry and Differential Equations.

As the quantitative skills of incoming students may range, weaker students are identified and placed in a slower paced course in calculus, if necessary. When students struggle, academic support services are available to help and faculty work to develop strategies to engage those students. Often, students' progress in the curriculum is contingent on passing key classes in this department; skills developed in these courses are built upon, and reinforced, in courses throughout the majors, so it is particularly important that students master math and science skills before moving ahead.

Humanities

Humanities similarly focuses on critical thinking and analysis, of texts as well as of history, but with an emphasis on critical writing as well as oral presentation skills. The department has a particular interest in "strengthening and reinforcing models of leadership and ethics through literary and historical study," aligning with the recent initiative to codify leadership education and assessment across the curriculum. The department's goal of "strengthening midshipmen's knowledge of historical events, literary works, diverse traditions and intellectual achievements in world culture and American civilization" shows in what ways the department contributes to the general education goal of "understanding and functioning effectively in the socially, economically, politically and culturally diverse global environment." Humanities' maritime orientation, as reflected in its goal, "to introduce midshipmen to the history and culture of the maritime world, the maritime industry, and the U.S. Navy" also clearly supports the USMMA mission [EDR: Humanities Program Review].

All ME majors are required to take 14 credit hours in humanities. These courses are Composition and Literature, History of Sea Power, Literature, Modern World History, and Technical and Professional Communications. MT majors take 15 credit hours. In lieu of the Technical and Professional Communications course, MT majors take a three credit hour elective such as Latin American History, Totalitarianism or Pen, Sword and Cutlass. Almost all HUM courses are discussion based, thus exposing students to diverse points of view and allowing students to test hypotheses in a non-threatening environment. Indeed, the small class size of many humanities courses facilitates discussion, which students sometimes lead themselves, further building upon and honing their critical thinking skills in oral presentation, another department level learning goal. Writing practice, with a paper a week assigned in some classes, up to seven papers the norm in others – with multiple opportunities to receive feedback on writing and revise – is a constant. Many faculty use rubrics to grade assignments, thus allowing students to know how their work will be assessed, a "best-practice" in student learning since it encourages meta-cognition, the analysis and awareness of one's learning process. Students also write a sea project, a one credit hour independent study in which students analyze a book through the lens of leadership and relate it to their lives at sea. The Humanities Department might consider reorienting this project to focus on cultural awareness, diverse perspectives or global issues, all at the forefront during Sea Year.

One challenge within the curriculum is the sequencing of humanities courses [EDR: Curriculum]. Some students do not take their second required English class until the second term of senior year while others take their second required History class the last term that they are on campus. As in

M & S, HUM courses build on each other, and too large a gap without practice or reinforcement means that some skills must be relearned. The HUM sea project and the writing-intensive coursework outside the department go some distance to fill the gap, something a writing-across-the-curriculum specialist (addressed further below) would help systematize. Finally, also related to sequencing, the second history class offered by the department is an introductory course belonging, most logically, at the start of the curriculum. Many students take history when also beginning license preparation; some, with justification, question the relevance of the class at that point in their tenure and do not have the chance to apply their learning in other areas of the curriculum or while at sea.

Social Sciences

All majors are required to take a three credit Economics course offered by the Business Division in the Marine Transportation department. Additionally, majors in MES and MESM majors are required to take a three credit course in Engineering Economics. While the current curriculum does not offer classes in political science, sociology, psychology, or anthropology, all majors in MT take 16.5 credits of business courses including Management, Fundamentals of Business Law, Admiralty and International Law, Maritime Economics, International Business, and Marketing [EDR: Curriculum]. These offerings provide a foundation for understanding how to function effectively in the socially, economically, politically and culturally diverse global environment.

Foreign Languages

Currently the Academy does not require foreign language instruction. A Spanish elective course offered over the last several years in the Humanities Department has been very popular. However, results from student focus groups indicate that midshipmen would prefer to see a wider variety of languages offered, including Arabic and Chinese. Going forward, the Academy plans to add Rosetta Stone, or similar educational methodology designed to develop foreign language skills, to the curriculum, whether for credit or as a non-credit offering.

General Education Competencies

Critical and Creative Thinking and Solving Complex Problems

Learning calculus, figuring out a physics problem, analyzing primary documents from the civil war and interpreting their ramifications for today: all these activities involve critical and creative thinking. But courses in the majors, including on the nautical science side where navigation is the order of the day, also do the same. ABET, which accredits two of the three ME majors, demonstrates clearly through its learning goals the dominance of critical thinking in engineering courses. In ME capstone projects and presentations, for example, students are tasked with providing professional level analysis of engineering design projects or with the planning and analysis of ship construction or modification [App. 7-11]. Bridge Resource Management, the capstone course for ML & S majors and any number of other courses such as maritime law, business, accounting and marketing, each require and teach critical thinking [EDR: Writing-Intensive Courses – Syllabi]. The sea projects across the curriculum require students to solve complex problems of differing yet intersecting kinds [EDR: Sea Project Samples].

While critical thinking is necessary for all students as they complete the above projects and coursework, no single measure used currently assesses how students are progressing in the

development of this skill. The AD is exploring the use of the Collegiate Learning Assessment (CLA+), a standardized test, to assess students' critical thinking, analytic reasoning, and problem solving skills. The results of this test could then inform how critical thinking is fostered across the curriculum and also suggest where improvements can be made.

Oral and Written Communication

Humanities courses are all writing intensive, as already explained. HUM coursework furthers students' abilities to make a logical argument, contextualize it, and support it with evidence. Midshipmen also complete a lengthy writing assignment to receive credit for their internship, as discussed in Chapter 7. Writing exercises and assignments are also a part of the academic requirements in MT, ME and Naval Science (NS) courses, as well as for all sea projects [EDR: Writing-Intensive Courses – Syllabi; Sample Sea Projects]. In conjunction with such writings, students are often required to make oral presentations, either individually or in teams [EDR: Presentation-Intensive Courses – Syllabi]. In their capstone projects for ME, for instance, teams of students present in front of a panel of judges from industry. Most HUM classes require at least one individual or team oral presentation per term. However, though students reinforce their oral and written communication skills across the curriculum, writing is not currently integrated and assessed as a whole, with assignments from one department building on those in others. A writing-across-the-curriculum (WAC) specialist could assist with such integration, including by disseminating information on how writing can be used to improve learning in any subject. And, indeed, the Academy has tried for many years to hire a WAC specialist who could support faculty in designing and evaluating writing assignments. Increased writing practice would be to the benefit of students, and it would not require additional credit hours, but be included in current courses to further strengthen writing skills.

Information Literacy and Technological Competency

The curriculum is packed with courses that require the use of computers, software, simulators and technology. Indeed, students' proficiency in the use and application of these systems is mandatory for successful completion of their STCW-mandated professional course requirements. Midshipmen use simulators extensively in MT and ME as discussed in detail in the previous chapter. In ME, capstone projects require extensive research and are assessed for their technical validity, while MT teaches technical communications for ships at sea. As also stated in Chapter 7, the library, a federal repository for maritime materials, has high quality databases and one of the best maritime collections in the nation. The library offers helpful sessions on how to use its resources: students receive a library orientation during the indoctrination period along with a research tutorial which is augmented in successive years at the Academy by more in depth usage in particular courses and programs such as ML & S which uses the library extensively.

Midshipmen also research and present on an impressive array of topics as part of the Kings Point Scholar Program [App. 8-2]. Administered by the Dean's Office, this program enables students to work with an assigned faculty mentor over the course of several years to do intensive, guided study on a topic of their own selection. Though not all students avail themselves of this opportunity, the Kings Point Scholar Program provides a valuable opportunity to enhance skills in information literacy, critical and creative thinking, and writing.

Inside the Academic Division and Out: Values, Ethics and Diverse Perspectives

The Regiment has a Director of Ethics who oversees the midshipman-run Honor Board which administers its own cases and provides its own student-led trainings [App. 8-3, EDR: Honor Board Training]. In addition, all students take a course in NS, Naval Leadership and Ethics, explicitly devoted to Ethics [see syllabus in EDR: Writing-Intensive Courses]. Some students attend Carnegie Council for Ethics and Foreign Affairs meetings and some are members of the Kings Point Moral Science Society, both of which provide additional opportunities for engagement in this realm. [EDR: March 2015 *Hear This!* (p.5)]. Indeed, honor and ethics are integral to the mission of the institution and midshipman progress in these areas ought to be assessed via institutional level learning goals.

The Academy has an active Human Relations Committee with a cross-section of students and faculty from across the campus which meets frequently and actively debates and analyzes diversity and other issues, so relevant to the mission of the Academy and the future careers of midshipmen [App. 8-4]. This committee, whose Chair meets regularly with the Deputy Superintendent, could play a more significant role in broaching, disseminating and communicating diversity issues across the campus. The Arts and World Affairs program, now administered by the Commandant's office, offers an effective way to promote and support cultural awareness and diversity through trips to New York City, an underutilized resource presently. Much more could be done in future years.

Sea Year and General Education

Midshipmen do venture much further afield than New York City! Sea Year provides an exceptional opportunity for cross-cultural experiences all over the world. It is also an arena for competency-based general education learning. As already mentioned and as discussed later in this chapter, the Academy also requires students to complete a two to eight-week internship in a transportation-related field. These experiences give students a unique, hands-on environment in which to develop general education skills. Working together on ship encapsulates many components of general education and provides the opportunity for students to apply those skills in a highly interdependent global economy. Midshipmen travel to a wide variety of ports located all over the world from the Arctic to the Antarctic, interacting with people from many cultures, including on board ship. Midshipmen solve problems as they arise and use technological competency in engine room operations and ship handling. The distance between the midshipmen and Academy necessitates clear and effective communication skills as the majority of correspondence takes place through email exchanges between students and their Academy Training Representatives (ATRs), who supervise Sea Year learning. And while on ship, students must communicate with the crew and understand the human relations involved in keeping her safe and seaworthy. All of this learning is evaluated with a rubric, but Sea Year would not be Sea Year without sea projects which require hard work, reflection and critical thinking, all self-motivated, which in turn requires maturity [EDR: Sea Project Sample].

Assessment of General Education

The USMMA assesses the five Academic Division goals designated as general education goals in the rigorous and systematic manner discussed fully in Chapter 9. DM 006 requires that each AD goal be assessed at least once in a five-year cycle and all department goals tie to AD goals [App. 1-1].

The AOAC oversees course level assessment for all course and department goals supporting general education goals [App. 9-2].

The departments that provide primary instruction in general education report program level assessment data directly to the Dean showing direct measures that assess their department's goals [EDR: Humanities Assessment, Math and Science Assessment]. A recent report undertaken for the purposes of the Self-Study examines program-level general education assessment at the Academy [App. 8-5]. *NSSE*, the *Midshipman Values Survey* and *Alumni Surveys* also each provide indirect assessment of general education at the Academy:

- NSSE. Survey results from 2014 show that students rate highly their acquisition of certain general education competencies and content: 87% of seniors reported that their experience at USMMA had "very much" developed their professional skills in acquiring job or work-related knowledge. 81 % of seniors reported that they had acquired the ability to work collaboratively with others; 76% of seniors believed they had learned to think critically and analytically while 74% reported they were prepared to analyze numerical and statistical information. However, students found achievement of general education goals "communicate proficiently both orally and in writing" and "understand and function effectively in the socially, economically, politically and culturally diverse global environment" to be less successful. 64% of seniors believed the USMMA had contributed to their ability to speak clearly and effectively and 49% reported being an informed and active citizen, with even fewer (47%) citing exposure to diversity – economic, racial, ethnic, religious, national. Lowest of all, 38% believed they had developed clear and effective writing. NSSE responses on the use and analysis of numerical and statistical information were much more positive, with 74% of seniors stating that USMMA made a significant contribution to their abilities in this area (a figure higher than for institutions in the same Carnegie Class) [App. 9-12, EDR: NSSE 2014 Report].
- Alumni Survey. The *2014 Alumni Survey* contained five questions that directly reference general education goals. 86-92% of alumni rate the USMMA as effective in four out of five goals. The only goal where scores are somewhat lower (76%) is "understand and function effectively in the socially, economically, politically and culturally diverse global environment." As discussed in Chapter 5, the USMMA is striving to increase diversity in its student body through effective recruitment policies; the AD is focusing on encouraging discussion of diverse viewpoints and global issues in the classroom across the curriculum [EDR: Alumni Survey 2014].
- Midshipman Values Survey. The 2014 survey administered by the Office of Institutional Assessment asked several general education-related questions under the "Personal Development" section [EDR: *Midshipman Values Survey* 2014]. On a six point scale (6=strongly agree), students rated the development of their systemic and logical problem-solving ability 4.71, the ability to think for themselves 4.65, and the ability to communicate clearly 4.63, the latter a more positive response than the equivalent *NSSE* result.

The results of these surveys, considered together, point to room for improvement in achieving "oral and written communications," and "understanding and functioning in the diverse global environments" general education goals. A WAC specialist can help integrate all the writing students currently engage in, including in the regimental context which is discussed further in the next section. A more focused study of the "understanding and functioning in the diverse global environment" goal by the AOAC could suggest opportunities for reinforcing this goal across the

curriculum including during Sea Year via sea projects, especially since students not only study, but also experience, the diverse global environment.

Self-Study Outcomes

The Academy provides ample opportunities for general education learning. Students solve problems; research; perform experiments; develop written arguments; make presentations; observe, analyze and think critically about the world around them; and develop a foundation for life-long learning in their majors and in their general education coursework. USMMA midshipmen reinforce their general education learning in their majors and also while at sea, on internships or back on campus in the Regiment. A new Director of Student Activities, as mentioned in Chapter 6, may help address current challenges of exposing students to diverse viewpoints while on campus; a WAC specialist will help extend writing practice into courses where it could help deepen learning. The collating of assessment across the curriculum of AD goal "Communicate proficiently both orally and in writing" will suggest ways to strengthen our writing instruction horizontally, across the AD. Thus, though the general education portion of our AD goals is indeed assessed in a rigorous and systematic way, such a collating will enable us to address the goals across the AD as a whole, as will the planned adoption of the CLA+ test in regards to critical thinking.

Recommendations

- Adopt Rosetta Stone, or similar educational methodology to provide students the opportunity to develop foreign language skills of their choice, whether for credit or as non-credit learning.
- Administer the Collegiate Learning Assessment (CLA+) standardized test to measure and assess critical thinking skills of midshipmen with results used to improve instruction.
- Hire a WAC coordinator to integrate learning and reinforce writing skills across the curriculum.
- Develop mechanisms to assess and analyze general education learning outside of the academic division, in such areas as Waterfront, Regiment and Athletics.
- Revise the Humanities Sea Project so that students examine diverse viewpoints and/or issues of globalization, diversity and cultural awareness; partner with MT, ME and NS to incorporate and integrate such analyses across sea projects.

Standard 13: Related Educational Activities

The institution's programs or activities that are characterized by particular content, focus, location, mode of delivery, or sponsorship meet appropriate standards.

As befits its mission and philosophy, the USMMA complements and reinforces Academic Division learning in a variety of ways. These related educational activities, whether in support of midshipmen pursuing their baccalaureate degree or enabling undergraduates to earn a Master of Science in Marine Engineering, are designed to produce professionals and leaders in the maritime field. While the Academy seeks to admit the most academically qualified students, some developmental services for underprepared students are available such as the English Support Program, discussed previously in Chapter 6. As emphasized throughout this report, the Sea Year experience is a unique way students build upon academics through experiential learning, where they are evaluated on their work performance. Internships offer another valuable opportunity for experiential learning that supports instruction in the major, deepening and strengthening it.

One key component of the Academy's mission is to educate "leaders of exemplary character." A recent initiative undertaken to fully embrace this mandate is the designing of a comprehensive leadership development program. While Athletics, Regiment, and Waterfront each focus on leadership, the primary responsibility for leadership development falls under the Commandant, who oversees the Regiment of Midshipmen. Currently, the Commandant's office is spearheading efforts to theorize, formalize, assess, and stress leadership development in the Regiment and beyond.

In terms of distance learning, the Master of Science in Marine Engineering (MMarE) is the only program at the Academy offered in that modality. The MMarE program was designed to serve the shoreside marine industry and to provide graduate level professional education in a convenient fashion for working professionals. As such, the program is available online. Only two courses have required on-site laboratory experiences, and these courses are typically scheduled concurrently to minimize student travel requirements.

Experiential Learning

Sea Year and Internships

As discussed already, Sea Year allows students to put their academic learning into practice in a real world context. A "Shipboard Performance Evaluation," used by supervisors to appraise cadets' efforts while at sea, measures key competencies for all components of the USMMA curriculum [App. 9-11]. Internships in maritime or transport industry environments could also be assessed in this manner, providing valuable evidence for the leadership development initiative through a professional, maritime lens. In the MESM internship alone, students practice management skills at a shipyard, either as a "vessel owner" (customer) or as the "shipyard owner" (contractor), exposed to planning and management scenarios not usually available to sailing engineers or mates. Students schedule large workforces, plan logistics, make purchases and use written communication and mathematic skills. Midshipmen analyze and reflect on this experiential learning in their internship reports, already discussed in Chapter 7.

Non-Credit Offerings

Leadership Development

For over seven decades, USMMA midshipmen have been prepared to assume responsibilities upon graduation as licensed Officer of the Watch aboard merchant ships. This means that the newly-minted Third Mate or Third Assistant Engineer is, for the duration of his or her watch, responsible for the navigation/cargo or propulsion/machinery operations of a multi-million dollar vessel, the absolute safety of its multi-million dollar, potentially hazardous cargo not to mention the lives of passengers and crew. These duties involve a degree of responsibility unmatched by that given to recent graduates of any of the other federal service academies.

The Superintendent, the Advisory Board, and the Secretary of Transportation have recently articulated that Academy programs should focus more explicitly on midshipman leadership development. The Secretary, in his July 2014 letter to the Superintendent, referred to throughout this Self-Study, charged the USMMA to "develop a comprehensive leadership development program that integrates academic and regimental student experiences and places leadership development at the forefront of the Academy experience" [App. 5-3].

The USMMA has moved rapidly to respond to this imperative. The Superintendent and the Dean convened meetings of senior staff and academic DHs immediately following receipt of the Secretary's directive to develop plans to implement his charge [App. 8-6]. The Midshipman Leadership Development Program Working Group, formed per SI 2014-15, gave a presentation in Spring 2015 to DHs, mapping out the shape of the evolving program [EDR: Leadership Program Brief]. Modelled on the Navy Leadership Development Strategy, leadership development at the Academy, above and beyond what currently takes place in the Regiment, will be a team effort across the campus as a whole with learning outcomes for all midshipmen that can be assessed and measured. Definitions of leadership will have sound theoretical foundations and repose on well-defined principles, with an academic "pillar" extending the leadership-related AD goals: a leadership course slated to continue as an elective in AY 2016.

Currently, the Regiment, overseen by the Commandant of Midshipmen, assigns responsibilities and duties to midshipmen based on seniority and merit [EDR: Midshipmen Officer Selection]. Following the motto "Lead by Example," Midshipmen officers from the senior class run plebe indoctrination, a 17-20 day training period designed to orient new students or "plebe" candidates to military and maritime culture [EDR: Indoctrination Manual]. Senior midshipmen officers continue to oversee the Regiment throughout the year with regimental training periods, company inspections, and Honor Boards [EDR: Honor Manual, Midshipmen Officer Guide Book].

Distance Education

Master of Science in Marine Engineering Program (MMarE)

The MMarE program arose out of a need expressed by industry for a Master of Science in Marine Engineering whereby working engineers could further their professional education without having to take a leave of absence [EDR: MMarE Catalog]. Courses are conducted in accordance with the established policies and procedures of the Academy, and are therefore in compliance with all relevant standards of the federal government and the Academy's accreditation.

Program Funding

The MMarE program is self-sustaining, tuition driven, and runs on a continuous budget across fiscal years. Indirect financial support is provided by the American Bureau of Shipping through their generous scholarship contributions for students who might otherwise not be able to afford graduate education.

Assessment

MMarE assesses student learning at the course level. The program uses the 14 undergraduate ABET criteria to map course-level assessment to the MMarE Program Goals, to the extent practicable. Using ABET goals orients the program towards possible accreditation by ABET in the future, and constitutes a track record of assessment using ABET criteria. At the conclusion of each course, each faculty member produces an "End of Course Report" (ECR). These reports summarize the course learning goals achieved as well as the tools and metrics used in the assessment process. ECR reports also reflect on the success of implementing recommendations from the previous year's report, thereby closing the loop. The Program Director provides a report summary of student survey results to each faculty member after s/he submits grades, shedding light on students' perceptions of their own learning. Finally, the Program Director and faculty member discuss the results of the ECR and student survey reports. Each term the specific program goal to be assessed is rotated, ensuring equal coverage. At the end of each academic year, the Program Coordinator submits an outcomes assessment report to the AOAC [EDR: MMarE Program Review].

Student Verification

The Academy is in compliance with the provisions of the United States Federal Higher Education Opportunity Act (HEOA), Public Law 100-315, concerning the verification of student identity in distance learning courses, as outlined in DM 217 [App. 8-7].

DM 217 requires that all of the MMarE Program's courses employ stringent methods to verify the identity of all degree candidates. It also discusses how identity is validated through secure log-ins and timed exams. The Academy continues to explore new and alternative technologies that will further enable faculty to confirm student identity, and will support those technologies as they become available for instructor use.

Self-Study Outcomes

In accordance with the Academy mission, much student learning, including leadership development, takes place outside of the classroom. At the USMMA, experiential learning reinforces AD learning. The new initiatives to formalize leadership development currently underway will continue to marry academic and experiential learning in a productive partnership. The MMarE program is also adapted to the profession and professionals it serves, offering specialized learning in a convenient fashion.

Recommendations

- Continue implementation of the leadership development program.
- Devise effective means of assessing midshipman leadership learning on an institutional level.

CHAPTER 9: ASSESSMENT OF STUDENT LEARNING

Standard 14: Assessment of Student Learning

Assessment of student learning demonstrates that, at graduation, or other appropriate points, the institution's students have knowledge, skills, and competencies consistent with institutional and appropriate higher education goals.

Learning Goals

In the Academic Division (AD), every department performs a well-organized, well-monitored, rigorous and systematic assessment process, first on the course and then on the program level. This assessment process drives changes in curriculum and pedagogy. Each department assesses its own department goals that relate to the AD learning goals [App. 1-5]. The whole process is guided by the AOAC, a committee that reports directly to the Academic Dean, made up of representatives from each department and also the Dean's Office.

Each course given in the AD must have a list of objectives and learning goals, as per DM 237 [App. 9-1]. These must be included in the course syllabus. As DM 237 explains, objectives are broad descriptions of what the course will achieve, while learning goals are more precise statements of what competencies the students will develop in the course. Course objectives must tie to departmental goals, while in professional courses student learning goals must satisfy the standards of the accrediting agencies. This is particularly important for courses with STCW competencies, which come with their own specific objectives and criteria. Thus every course at the Academy must carry a set of objectives and criteria that are communicated to the students and faculty.

Those academic programs with outside accrediting agencies must tailor their objectives and learning goals to specific guidelines. For example, ABET has its own goals which the engineering department must assess. In addition, both ME and MT assess STCW competencies. "Distribution of STCW KUP Instruction and Assessment for Deck Officer Candidate Midshipmen in the Classes of 2017 and Beyond" and "USMMA STCW 2010 Engineering" tables explain the rigorous and systematic manner with which they do so [EDR]. Indeed, the STCW Convention, 2010, as amended, mandates worldwide standards for the training and certification of seafarers. The United States is a signatory to the multilateral Convention and accordingly, the Academy is required to fully meet those standards. Each midshipman at the Academy must demonstrate knowledge, understanding and proficiency (KUP) in identified areas of competency essential for mariner education. These assessments are clear, direct measures of learning that are documented repeatedly throughout the four-year cycle. A merchant marine license requires mastery of all designated STCW competencies.

Below is a snapshot illustrating a crosswalk of Academic Division goals and department goals, a portion of the complete "Academic Goals Course Matrix" showing the linkage of department goals to course goals [EDR]:

Table 9-1 – Academic Division and Departmental Goals - Crosswalk

AD	MT								ME												Humanities				Math & Science								PE&A		Naval Science			
	MT Department Goals								ME PEOs				MES PEOs				MESM PEOs																						
	1	2	3	4	5	6	7	8	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	6	7	8	1	2	1	2	3	4
1	x	x	x	x			x		x				x				x					x			x	x	x	x	x	x	x	x	x	x		x		
2				x		x	x				x			x				x			x	x			x	x	x	x	x	x	x	x			x	x	x	x
3							x		x		x		x	x			x	x						x									x	x	x	x	x	x
4							x			x					x				x		x			x							x	x	x	x		x		
5			x		x					x					x				x				x		x	x	x		x	x			x	x		x		
6								x		x					x				x				x									x			x	x	x	x
7				x						x					x				x		x		x						x		x	x						
8						x				x				x					x		x			x							x	x		x				
9												x				x				x	x	x	x	x	x	x	x	x	x	x	x	x						

Academic Assessment Process

In addition to the Academic Dean, the AOAC provides primary oversight of course learning assessment. DM 005, "Academic Outcomes Assessment Committee" (2010), revised in February 2013, outlines the purpose and function of the committee [App. 9-2]. The goals of the AOAC are as follows:

- To ensure excellence in course-level assessment for both improvement and accountability – formative and summative – through sustained and engaged participation
- To establish a quality-assurance system that fosters excellence in educational practices, teaching and learning
- To provide timely, quality feedback on Annual Course-Level Assessment Reports and on the Departmental Assessment Plans

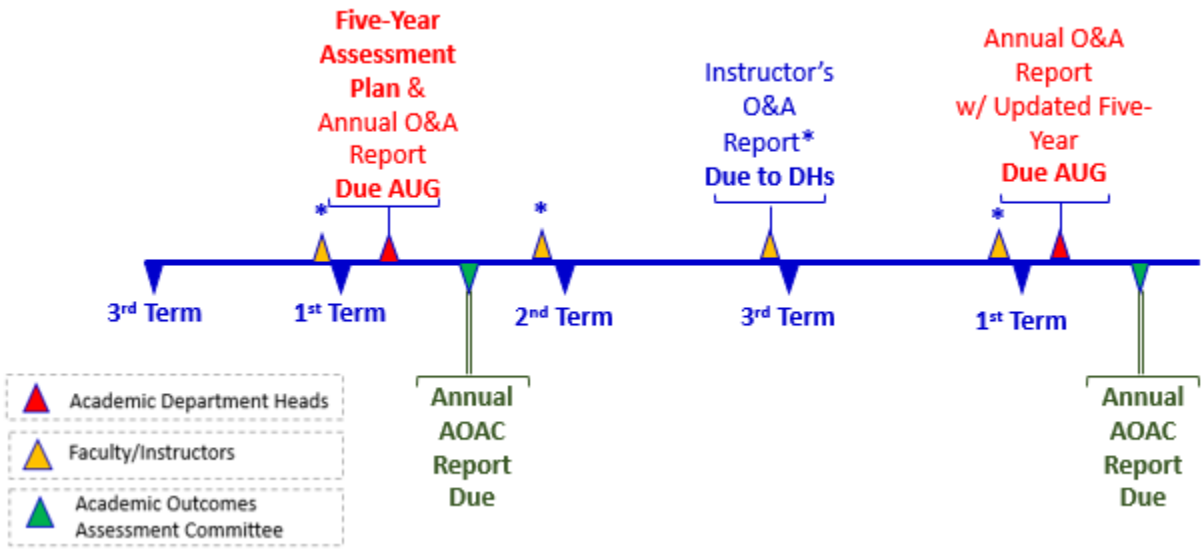
DM 006, "Course-Level Academic Outcomes Assessment," was also revised in February 2013 [App. 9-3]. The AOAC visited the academic departments to present, discuss and explain the document, which contained more specific direction and guidance for conducting course-level assessment. It established the assessment cycle based on the AY (rather than trimester by trimester, as previously done); discussed the role and responsibilities of the faculty, Department Head, and the AOAC; required development and submission of a Department Assessment Plan identifying when courses are assessed within a five-year period; and provided guidelines, checklists, and a template for the Department Head's Annual Outcomes Assessment Report.

DM 006 explains the contents of individual instructor reports and Department Head Reports that are to be submitted each year towards the end of August. Department Head Reports provide in depth analysis of their department's assessment work for the year. The AOAC responds in its annual report about two months later; AOAC annual reports give departments extensive feedback and analysis, suggest new assessment directions for the AD as a whole and share best practices (AOAC reports, AY 2012-2013 [EDR] and AY 2013-2014 [App. 9-4]). In AY 2013-14, for example, the *AOAC Report* asks for a new section in future Department Head Reports entitled "closing the

loop" which discusses all results of implemented assessment-based actions. Sea projects will also be assessed and analyzed in departments' submittals from AY 2014-15 onward. The *AOAC Report* itself assesses "teaching and learning strategies," "key learning goals," "assessment methods" and "use of results" in Department Head and individual instructor reports. Traditionally, AOAC meets throughout the year, sometimes several times a month; the committee meets frequently after departments submit their materials [EDR: AOAC Chair Emails AY2014-15]. As noted in the *AOAC Report* contained in App. 9-4, the committee detected a marked improvement in the quality and usefulness of assessment in the years after the revision, briefing, and implementation of DM 006.

Below is an illustration of the assessment timeline during an academic year.

Figure 9-1 – Academic Year Assessment Timeline



Data Collection: Course Level

As noted above, each department has a five-year plan that schedules the initial assessment, analysis, and potential reassessment, of every course [App. 9-5]. Each department goal must be assessed at least once in a five-year cycle.

In some departments, course coordinators oversee data gathering for individual courses. Faculty amass data from final exams, midterms and projects, among other artifacts. Data draws from embedded portions of tests or assignments that are related to specific course goals; a part of an overall grade or its equivalent that concerns mastery of a certain subject; or the score a student receives for performance of a required activity [App. 9-6]. For instance, in AY 2013-14, math courses assessed students' progress on several predetermined problems on the final exam; humanities courses analyzed the desired vs. achieved outcomes of a single writing assignment; and, as prescribed by the Coast Guard, ME and MT assessed STCW competencies task-by-task.

Overall, the process of data collection for individual courses is well-established in the AD. Each department follows its own methods, based partly on varying professional standards and partly on tradition, while maintaining uniform practices throughout all of its courses. The division collects data consistently and regularly, thus ensuring that trends in student learning can be studied over

longer periods of time. With few exceptions, course assessment relies on data generated during the regular teaching process and requires additional time only to extract the necessary statistics from the already collected information. With the right planning, this makes the process cost-effective in terms of faculty time.

Data Collection: Program Level

On the program level, reports are submitted annually by DHs to the Dean's Office and, since its inception, to the IEC, which has conducted reviews for almost every program on campus [App. 9-7; EDR: "Program Review Process").

Program assessment relies on data gathered for individual courses; however, since it analyzes the entire course of study, the most important statistics come from the senior year. The key direct measure for every midshipman at the USMMA is the licensing exam administered by the USCG. Its results are therefore the most important assessment data to gauge successes or deficiencies of the overall program of instruction. Another almost equally important measure is student performance on senior projects and capstone courses (for example, the Bridge Resource Management course in MT and the Marine Engineering Design project in ME), in which skills and abilities not directly tested on the licensing exam can be assessed.

The degree-granting departments also rely on two indirect measures for their program assessment: senior exit surveys and alumni surveys [App. 9-8]. In addition, ME conducts annual interviews with industry recruiting teams and experts who assess capstone projects in ABET-accredited majors. Other sources of assessment data that licensing departments use may include the results of FE exams or job placement data. Overall, degree-granting departments use a healthy mix of direct and indirect measures which allow them to gauge the state of student learning for both professional and general education.

Departments that do not grant degrees have to rely on a different selection of data [App. 9-9]. They may use parts of alumni surveys that discuss relevant subjects; they also develop surveys tailored to their own offerings. For example, M & S compares freshmen grades in its courses to their progress in the same subjects prior to coming to the USMMA (self-reported) and the PE & A department conducts exit surveys with participants in its athletic programs [EDR: Program Assessment Summary 2014].

Analyzing Evidence of Learning

Faculty teaching a course analyze their own sections. At the end of the year, they tally conclusions and data, discuss with colleagues at department meetings, and come up with a unified action plan. Usually, though not universally, course data is measured against preset benchmarks; analysis and conclusions then depend on whether benchmarks were met.

As already discussed, the annual Department Head Report to the AOAC tabulates recommendations based on course analyses and also provides broader suggestions for learning improvement on the course, department and even institutional level. An important part of many annual reports to the AOAC is "closing the loop" on the prior year's action plan. That is, the assessment process holds departments accountable for promised follow-up actions.

The AOAC, in a sense, assesses assessment and consequently recommends changes to the assessment procedures themselves. Since the AOAC distributes its report to all faculty and provides examples of best practices, the assessment process does not remain stale and is inherently self-improving. This year, for instance, all departments will be reporting on their "leadership" learning goals; the data will be collated and analyzed in the first term of AY 2015-16. Thus, the committee stays abreast of new directions for the institution as a whole. In addition, members of the committee pursue professional development in assessment. Supported by the Academy, members have attended one-day assessment workshops at Nassau Community College and also MSCHE Conferences. The inter-departmental nature of the committee and the commitment to assessment practices shared by most of its members – and demonstrated in its reports – have helped create an assessment culture on campus, a kind of "sea-change," in fact. Evidence of the sea-change has been felt most recently, during discussions of this very chapter in the Self-Study Steering Committee! Almost universally, the Steering Committee recognized the importance of formalized assessment processes in the AD and beyond.

Assessment-based Action

Since "the end of assessment is action," to quote a well-known assessment writer, what changes have been made based on assessment? Program and course-level assessment shaped the new curriculum, implemented in AY 2013-14. It was the biggest change of education in the Academy in the past ten years and, though initially spurred by a STCW revision, was otherwise assessment-driven to a large extent. Assessment analysis indicated weaknesses in existing courses. This led to many changes: courses were split (such as, for instance, Statics and Dynamics), combined (Strength of Materials and accompanying lab course), newly created (Technical Writing), or redesigned (core business courses in MT) [EDR: ME 2012-13 Course Assessment Report, ME 2011-12 Course Assessment Report, MT Program Review]. Changes stemmed from analyses of specific courses, sequencing of courses, and entire programs. For example, low scores on a specific question in alumni surveys combined with issues indicated by other assessment data [EDR: Alumni Survey 2013] affirmed the need for more Probability and Statistics instruction and supported creation of a new course. In the same vein, new concentrations and electives were added; for instance, a concentration on environmental issues was developed based on student interest and alumni suggestions. In a more dramatic example, the Logistics and Intermodal Transportation major was substantially altered and renamed after a series of exit surveys suggested a shift in emphasis toward security and the maritime aspects of logistics management.

Assessment also precipitated individual program changes that were not directly related to the curriculum redesign or that preceded it. For example, during AY 2010-11, when analysis indicated poor results from the first sailing period, MT introduced a new course in Navigation Law taken by all its majors before they went to sea, subsequently taught by a different professor – also based on assessment data [EDR: MT 2010-11 Course Assessment Report]. Later, the department added technical subjects (such as radar) to the freshman year based on interviews with students returning from sea as well as shipboard evaluations – evidence of how assessment from Sea Year is incorporated into the academic program. Sometimes, if a department believes that a course change is necessary, it might do a special assessment-based study to test its assumption. M & S had been teaching the remedial College Math course for some time. However, as the math faculty did not see a meaningful improvement in the Pre-Calculus skills of students taking the course, the

department initiated a detailed study which compared test scores and analyzed results on a math placement exam given during indoctrination and other assessment data. Since the study found no significant difference between the students who did and did not take the course but were otherwise similar, the department discontinued the course [EDR: M&S Assessment 2009-10].

Going deeper, assessment also drives changes introduced within individual courses. Licensing departments keep a particularly watchful eye over capstone courses and licensing seminars, and regularly improve the courses. For example, as a result of outcomes assessment in 2011, MT proposed developing a lecture on watch officer responsibilities and leadership for its bridge watchstanding course and putting additional emphasis on teamwork [EDR: MT 2010-11 Course Assessment Report]. In the same year, assessment of the licensing seminar in ME, along with the assessment of licensing exam data, led to several changes such as the addition of extra review topics on electronics and plant automation, and also to toughening policies for qualifying exams. The same analysis also revealed that course modifications made in the previous year had not worked, and, accordingly, the department discontinued these new practices. This is a typical case of re-assessment: changes are not simply implemented but tracked as well (see Licensing Exam Assessment in [App. 9-10]).

Courses that are more upstream from graduation receive the same level of scrutiny, though depending on the departmental five-year plans, they may not be assessed as often. Reports submitted to the AOAC indicated a number of assessment-based actions. For example, last year departments proposed and implemented the following changes: rebalancing content in nuclear engineering (ME), introduction of pre-testing as a way to improve learning in International Business and Ocean Shipping (MT), rewriting the leadership rubric to allow for less subjectivity (PE & A), focusing on the use of primary sources in topics in the civil war and reconstruction (HUM), changing the strategy for teaching torque in physics (M & S), and using weekly reading to foster engagement in naval leadership and ethics (NS) [EDR: AOAC Report AY 2012-13, Appendix with departmental reports]. All these changes came about through assessing student learning in individual courses.

Analysis of course data can propel program, or even institutional level, changes. Sometimes the required action does not relate directly to any element of the course itself but instead involves changing prerequisites or even overhauling support services. For example, analysis may uncover a need for further investments, increase in lab space, the addition of courses to the curriculum, or even a different selection of faculty teaching courses, as happened with Introduction to Electrical Engineering. Course assessment is thus not confined to simply reworking a course, nor does it rely only on data and analysis generated from within the course. The same applies to program assessment: analysis of a single course can motivate much broader changes in a kind of ripple effect. For instance, in ME, the most recent assessment of Machine Design I produced recommendations that prompted changes in three other courses [EDR: AOAC Report AY 2012-13]. On the other hand, assessment of the overall program may pinpoint a specific course for revision.

Sharing Assessment Analysis Across the Academic Division and Beyond

Academic departments share assessment analysis via the AOAC which also reports directly to the Academic Dean. Athletics communicates well with Shipboard Training, which assesses internship reports written by students as well as collects a rubric completed by Sea Year supervisors [App. 9-

11]. Athletics assesses leadership with a rubric while the Regiment has its own performance metrics [EDR: Commandant's Office Program Review]. A formal written inventory of the assessment already taking place in such areas as the Waterfront and the Regiment is crucial for an overall picture of student learning at the Academy, especially in such areas as general education or leadership education.

Relation to Institutional Assessment

The chair of the AOAC sits on the IEC in order to communicate information about the state of student learning assessment at the Academy. The Academy as a whole conducts two student surveys: *NSSE* and the *Midshipman Values Survey*. Recent discussions of *NSSE* in a special brown-bag series on teaching galvanized by the *Advisory Board Report* have enabled faculty to explore how interpreting *NSSE* results can improve teaching and learning practices [EDR: Advisory Board Report 2014; App. 5-3, App. 5-4]. The Office of Institutional Assessment administers both surveys, and also analyzes the results of the *Midshipman Values Survey* [App. 1-6] while *NSSE* analysis [App. 9-12] is performed by its authors (the NSSE Institute) as well as the CAST and AOAC [EDR: *NSSE Report* to Faculty Forum; *NSSE* Longitudinal Study; *AOAC NSSE Report*].

In some sense, *NSSE*, the *Midshipman Values Survey* and assessment of learning across the curriculum and co-curriculum offer ways to get at issues bedeviling the Academy since its inception: how do students find the time for reflective and not just active learning. As seen also, in Chapter 6, opportunities for student learning at the Academy abound. But, how students find the time to reflect on that learning and how that learning is integrated and reinforced in a rigorous and systematic fashion across the curriculum, co-curriculars *and* while students are at sea remain areas worthy of analysis.

An expanded role for the AOAC or IEC (see Chapter 4) in which it considers assessment of institutional level learning goals across the Academy (including when students are at sea) could reveal areas where time could be saved and/or where learning is duplicated: an aggregation, or inventory, of student learning.

Self-Study Outcomes

Assessment of student learning in the Academic Division is rigorous and systematic: goals are clearly defined and assessed regularly on the course and program level. Course level assessment results in changes on course, program and institutional levels. Assessing leadership and general education goals will require aggregation among academic departments and beyond. AOAC or IEC could expand its role to perform such analysis which could help make learning across the curriculum and co-curriculum more efficient, and hence combat student burn-out. Co-curriculars could also view themselves from more of an educational standpoint. Considerable assessment takes place in key co-curriculars such as Regiment but this needs to be formalized [EDR: Commandant's Program Review, VIA Survey Results for Class of 2015, Athletic Leadership Assessment].

Recommendations

- Relate co-curricular learning goals to institutional level learning goals and create the policies and procedures for conducting assessment related tasks and activities.

- Integrate the assessment of leadership and general education within the Regiment and in all identified areas in which such learning occurs throughout the Academy.
- Determine a means by which assessment of learning, across the Academy, can be collectively gathered and analyzed with results used to enhance student leaning campus-wide; assign the locus for such work.
- Develop mechanisms to ensure that assessment results are shared with the IEC to improve student learning and overall institutional effectiveness.

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