The California Maritime Academy Academic Master Plan

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I.   VISION STATEMENT

Cal Maritime's vision provides a compelling conceptual image of the future we will create for this institution. This statement describes how we will build Cal Maritime in the years to come:

> *The California Maritime Academy will be a leading educational institution, recognized for excellence in the business, engineering, operations, and policy of the transportation and related industries of the Pacific Rim and beyond.*

We will maintain our commitment to quality instruction, research, and service in maritime education. From this foundation we will develop further to become a leader in engineering, science, and technology for the transportation industry. We believe our strength as an institution lies in maintaining focused areas of excellence, as distinguished from engaging in programmatic proliferation which our resource base cannot support.

II.   MISSION STATEMENT

The mission for Cal Maritime defines our purposes as an organization. Our educational community subscribes to the following statement of what we will do. Our mission is to:

- *Provide each student with a college education combining intellectual learning, applied technology, leadership development, and global awareness.*
- *Provide the highest quality licensed officers and other personnel for the merchant marine and national maritime industries.*
- *Provide continuing education opportunities for those in the transportation and related industries.*
- *Be an information and technology resource center for the transportation and related industries.*

III.   BELIEFS AND VALUES

The California Maritime Academy is defined, in part, by the system of beliefs that make us unique as an institution of higher education. They are:

- Experiential Learning
- Ethics Development, both Personal and Professional
- Small Residential Campus Environment
- Student Centered Learning
- Professional Orientation
- Having a Niche to Focus on in Higher Education
- Campus Civility and Collegiality
- Diverse Living/Learning Community

Values influence how we make and carry out decisions, and how we interact with our internal and external constituencies. At Cal Maritime they are:

- Dedication
- Honor
- Integrity
- Respect
- Responsibility
- Trust

IV.   THE ACADEMIC MASTER PLAN PLANNING PROCESS

In the fall of 2008, an Academic Master Planning Template Committee comprised of faculty members and campus administrators produced a document which identified several critical issues related to the ongoing development of academics at Cal Maritime. These critical issues included the need to: explore online technology and support services for teaching and learning; review academic expectations related to students' required cruise experiences; examine the current structure, membership and purpose of the Corps of Cadets; consider the nature and function of potential new academic programs at the undergraduate and graduate levels of study; evaluate the quality of student life; and revisit the organization of current academic programs.

In the spring of 2009, an Academic Master Plan Steering Committee was formed to create the Academic Master Plan, based upon the guidance and recommendations provided by the Template Committee. In undertaking this process, the Steering Committee hosted a series of open discussion sessions organized around the critical issues provided in the template document. Additionally, subcommittees were formed to consider the feedback elicited from these discussion sessions as well as recent faculty retreats and workshops, and to develop sets of corresponding goals and objectives that reflected the institution's vision for future growth and development.

Moreover, the development of this Academic Master Plan coincided with the California State University's *Access to Excellence* strategic plan and its accompanying Accountability Plan adopted by the CUS Board of Trustees. Specifically, among the suggested institution-level "commitments" to achieve these "Access to Excellence" goals, many dovetail neatly within our own institutional objectives, including, but not limited to:

- A Commitment to Invest in Faculty Excellence.
- A Commitment to Enhance Student Opportunities for 'Active Learning.'
- A Commitment to Enhance Opportunities for Global Awareness.
- A Commitment to act on the CSU's responsibility to meet post-baccalaureate needs, including those of working professionals.

The goals and objectives provided in this document are based upon the following assumptions of past, current, and projected enrollment growth of the California Maritime Academy over the next five years.

A. The Past, Current, and Projected Enrollment Growth
Current Enrollment
Since the development of the last strategic plan in 2002, campus enrollment has grown to a current headcount of approximately 850 residential and non-residential students. Due to the unique nature of Cal Maritime and the large number of credits required for graduation, "headcount" translates into a higher number of "full-time equivalents (FTEs)" than what typically occurs at other academic institutions. Therefore, the headcount of 850 students is equivalent to approximately 1050 FTEs. (See Appendix B for an explanation of unit degree issues at CMA.) Due to state funding limitations, CSU has directed Cal Maritime to maintain its enrollment for FY 09-10 at existing levels and it is anticipated that this level enrollment will remain through FY 10-11.

Future Enrollment
Cal Maritime recognizes that all funding models indicate it is more cost effective to have enrollments in the 1500 to 2000 FTE range. Therefore, once state funding allows, we will strive to grow toward the following targets, which include both residential and non-residential students:

Year	Headcount (Undergrad/Grad)	FTE
2011-12	900/0	1100
2012-13	950/25	1200
2013-14	1000/50	1300

The projected increase in enrollments will require additional facilities, since existing classrooms are currently utilized to the maximum extent possible. In addition, long range projections to meet the 1500 to 2000 FTE enrollment range will require the development of continuing education and extended learning opportunities as well as the development of graduate programs and a corresponding increase in graduate student enrollments. Furthermore, it must be acknowledged that these growth projections may change due to the current economic conditions of the State of California and possible measures taken by the California State University to mitigate budgetary crises.

V.   THE ACADEMIC MASTER PLAN

The Academic Master Plan of The California Maritime Academy is intended to provide an institutional guide for the future growth, creation and development of academic programs and support services which contribute to the identity and reputation of our institution. It expresses the collective visions of campus faculty, staff, and administrators involved in academic programs, and will be used to help achieve the goals of the institution's Strategic Plan and to justify the acquisition of resources needed for faculty, administration, staff as well as the construction or modification of campus facilities to support physical training, library services, student services, classrooms, laboratories, residence halls and other academic needs. The Academic Master Plan is intended to focus on development goals over the next several years, but with a view toward the year 2029, the centennial of the Academy.

The Academic Master Plan includes goals, objectives and desired outcomes organized under the following five areas: A. Regional Accreditation; B. Academic Programs and Curricular Development; C. Library Services and Instructional Technologies Support; D. Training Cruise, Corps of Cadets and Co-Curricular Activities; and E. Envisioned Organizational Structure.

A. Regional Accreditation

The California Maritime Academy is accredited by the Western Association of Schools and Colleges. In 2008, the WASC Commission adapted several changes to the Standards of Accreditation and to the Institutional Review Process, and the California Maritime Academy, in its Academic Master Planning Process, acknowledges the existing Standards and their revisions, and is committed to the strengthening of its academic programs that such Standards address.

Specifically, Cal Maritime will develop and refine indicators for the achievement of its purposes and educational objectives at the institutional, program, and course levels. Cal Maritime will develop and improve a system of measuring student achievement in terms of retention, completion and student learning, and the institution shall make public data on student achievement at the institutional and degree levels.

As noted previously in the Academic Master Plan, Cal Maritime is also dedicated to the California State University's *Access to Excellence* Strategic Plan, and close attention will be paid to Commitment 4: Improvement of Public Accountability for Learning Results.

Goal RA-1: Develop a more comprehensive and accurate institution-wide assessment program.

- o **Objective 1:** In accordance with WASC Standards and CSU Accountability Standards, the California Maritime Academy will establish student learning outcomes for all programs. In addition, all course syllabi will contain applicable program outcomes with an indication of how these are met in the course.
- o **Objective 2:** Each Department shall determine a process for ensuring that outcomes are established, published in syllabi, and used to provide an assessment plan for continuous improvement of the curriculum.

- o **Objective 3:** In accordance with WASC Standards and CSU Accountability Standards, Cal Maritime will require that all courses considered for adoption or revision must contain an assessment plan for embedded improvement.
- o **Objective 4:** Cal Maritime faculty, individually and departmentally, will continue to develop instruments for measuring teaching effectiveness and improving course-based learning outcomes.
- o **Objective 5:** Cal Maritime will form and maintain campus committees dedicated to the integration of assessment practices across the curriculum.

Outcome: The institution will have a more sophisticated sense of its educational strengths and weaknesses and will be able to more quickly and effectively improve its programs.

Goal RA-2: Advance on "The Development of Public Accountability for Learning Outcomes" Initiatives.

- o **Objective 1:** Cal Maritime will coordinate data collection for the Voluntary System of Accountability, the CSU College Portrait and other organizations for national and international distribution.
- o **Objective 2:** Cal Maritime will coordinate review of learning results from Collegiate Learning Assessment (CLA), from FIPSE-sponsored projects, and other national institutions that publicize institutional data.
- o **Objective 3:** Cal Maritime will form and maintain committees on campus dedicated to Public Accountability for Learning Outcomes.

Outcome: Cal Maritime will have a more visible presence in various data collection agencies and will also have a deeper sense of its place among peer institutions.

B. Academic Programs and Curricular Development

Cal Maritime seeks to become a maritime university that provides education, training, experience and expertise in all things maritime. As such, we will explore the vastness of the word "maritime" and the expressions we use such as "maritime related fields." As our understanding of maritime education expands, we will also endeavor to recruit faculty and other experts who can address the important maritime issues that our society is confronting today and will certainly face in the future. The development of new academic programs and changes to existing programs at Cal Maritime will be done in a manner which supports our commitment to address these important issues.

The overall growth issue of the campus directly affects new program development as well as additional options in existing programs such as minors and electives. What is important is that Cal Maritime look to the future in all faculty hiring areas, and ensure our new colleagues can help move us in these areas in which we seek expertise. The areas in which we will look for new or additional faculty expertise, both at the practitioner and policy levels, for growth and development of new and existing programs are:

- • Energy: renewable, sustainable, green, efficient
- • Environment: marine, coastal, atmospheric, fisheries
- • Transportation: economics, trade, inter-modal
- • Business: international, supply chain, logistics, port and terminal management
- • Policy: maritime security, crisis/humanitarian relief, geographic, political

It is important that Cal Maritime students of all disciplines be able to obtain employment after graduation and progress professionally in their chosen fields. To this end, the Academy must strive to provide academic programs that both serve students' educational needs and fulfill the professional expectations of industry. Also, the content of academic programs must remain relevant and up-to-date with the increasing utilization of advanced technologies.

The California State University system requires that academic departments conduct periodic self-studies. These periodic self-studies will serve as the basis of this continuous improvement process on the Cal Maritime campus. The results of such studies will help define and justify new directions departments wish to pursue within the next five years and beyond.

However, before embarking on the development of new majors, adequate research must be undertaken to ensure we are developing new programs that are the most desirable to our students and employers. Thorough needs assessments must be conducted to fully comprehend the effect new programs may have on the campus environment, and the breadth of physical and academic resources required for the development of quality programs that serve students' needs.

In general, each department will be asked to explore new programs it foresees developing during the next five years. As with existing programs, these new programs must be justified as contributing to the mission of the institution and the needs of constituents. It is likely that the number of new programs proposed will exceed the capacity of the institution and, therefore, prioritization of new programs must be established.

Additionally, departments will be encouraged to collaborate on developing programs of an interdisciplinary nature. The links between business, science, technology and policy are apparent in the professional world, yet academic institutions have appeared reluctant in the past to create classes that illustrate these connections and to bridge departmental divides. Our educational system, professional workforce and society may be seeing the consequences of ignoring these connections. The creation of interdisciplinary and interdepartmental connections across the curricula will not only enrich students' educational experiences, but will improve cost effectiveness through resource sharing.

Finally, while the licensed programs at Cal Maritime have been designed to provide excellent technical and professional training aimed toward the development of good mariners, the ability for licensed officers to transfer their skills to shore-side opportunities has not yet been clearly established in all programs. Engineering Technology graduates seem to have more employment opportunities shore-side following graduation than do their Marine Transportation classmates. This is an important aspect that will be considered, whether through looking at the revision of existing programs or the introduction of new ones. It is important not to create additional programs that merely overlap or unnecessarily compete with existing programs.

Goal AP-1: Ensure that existing programs continue to serve students and their professions, and remain relevant and up-to-date with the increasing utilization of advanced technologies.

- o **Objective 1:** Require all departments to initiate an internal assessment program, involving input from various constituencies within, and external to, their department to determine the validity and effectiveness of their programs, and to recommend and justify directions of growth and improvement, based on outcomes assessments.
- o **Objective 2:** Utilize departmental reviews required through the CSU system as a tool to help academic departments determine the most efficient number of students their program can accept. These reviews must be based on the projected allocation of resources such as the training ship and vessels, simulators, labs and the practical aspects of hiring appropriate faculty part-time or full-time.
- o **Objective 3:** Utilize departmental reviews required through the CSU system to determine the necessity, potential efficacy and desirability of program growth and to prioritize the development of new and existing initiatives.
- o **Objective 4:** Utilize departmental reviews required through the CSU system to encourage academic programs designed specifically for the education and training of licensed officers to

carefully consider the opportunities that their graduates have to pursue shore-side careers if a career at sea is not readily available or short lived.

Outcome 1: Cal Maritime's existing academic programs become increasingly adaptable to shifting expectations of technology and industry, and demonstrate efficacy through a culture of evidence.

Goal AP-2: Develop the ABS School of Maritime Policy and Management in accordance with the intent of the ABS gift to include offering degree programs in the following areas: Global Studies and Maritime Affairs (GSMA); International Business and Logistics (IBL); and, perhaps, Culture and Communications.

Goal AP-2A: ABS Curricular Development

- **Objective 1**: Develop a robust set of student learning outcomes common to students majoring and completing minors in ABS programs, and taking courses within the school; develop program and school assessment plans for these outcomes.
- **Objective 2**: Examine the Law, GSMA and Business Administration minors to see if they best meet the needs of our students; adjust as appropriate; develop new minors as appropriate.
- **Objective 3**: Work with Marine Transportation, Mechanical Engineering, and Engineering Technology to embed more business, policy and culture and communications classes into their degrees (either as minors, joint majors or as required/elective course offerings).
- **Objective 4**: Maintain and strengthen the program in Culture and Communication in its mission to provide breadth and depth to the ABS programs, and as it supports Cal Maritime's commitment to intellectual learning.
- **Objective 5**: Conduct program reviews for the GSMA (2009-2010) and IBL (2010-2011) degrees.

Outcome 1: ABS curricular offerings in Global Studies and Maritime Affairs; International Business and Logistics; and Culture and Communications meet the needs of all students, and not just those in ABS degree programs.

Goal AP-2B: ABS Program Growth

- **Objective 1**: Expand student intake in GSMA and IBL programs (currently 35-40/year; increase to 60+/year), as well as quality of students in each program.
- **Objective 2**: Determine student attrition rates in GSMA and IBL (exact numbers as well as reasons for attrition); reduce attrition in programs.
- **Objective 3**: Expand the IBL faculty. Currently, there is only one tenure-track faculty member in IBL; need to hire both from industry and from academia, particularly in the core areas of: Logistics and Supply Chain Management, International Trade and Economics, Humanitarian Logistics, Accounting and Finance.
- **Objective 4**: Expand the GSMA faculty, particularly in Environmental and Energy policy (currently no GSMA faculty teach full-time for the GSMA degree; all are on release time or teach for other programs).
- **Objective 5**: Renovate the former Radar Building into the ABS Building for classroom use.
- **Objective 6**: Develop Master's degree program in Transportation and Engineering Management with the Departments of Marine Transportation and Engineering Technology.
- **Objective 7**: Develop and expand the ABS School of Policy and management Advisory Group, particularly in maritime policy as well as international business and logistics.

Outcome 1: The quality of ABS programs is improved and graduates are ready to meet future challenges in the careers of their choice.

Goal AP-2C: Develop and Deepen ABS Interdisciplinary Emphasis

- o **Objective 1**: Embed ethics throughout the IBL and GSMA majors; work with other majors to improve the study of ethics.
- o **Objective 2**: Embed social responsibility throughout degree and course offerings (for example, a course in humanitarian logistics, expanded Community Service Learning (CSL) opportunities).
- o **Objective 3**: Embed and expand written and oral communications throughout all programs, particularly writing within the disciplines.
- o **Objective 4**: Increase cross-cultural emphasis within the ABS programs, and in other degree offerings.
- o **Objective 5**: Develop opportunities for IBL and GSMA students to acquire both hands-on education using Cal Maritime's simulation capabilities and a deeper appreciation of the Marine Transportation and Marine Engineering Technology majors.
- o **Objective 6**: Explore the cruise experience with the goal of providing ABS students with more time in port.

Outcome 1: ABS students are provided with a deeper and meaningful well-rounded education.

Goal AP-2D: Develop ABS Internship and Career Development Opportunities

- o **Objective 1**: Track student experiences in internships; develop new internship opportunities to meet student needs (environmental and international opportunities in particular; more exclusively maritime and transportation opportunities for IBL students).
- o **Objective 2**: Track student job and graduate school placement records; assess graduates three to five years after graduation.

Outcome 1: ABS students have been provided the education and experience necessary to succeed in either their professional careers or pursuing graduate studies.

Goal AP-3: Develop academic minors to offer students opportunities beyond their major course of study.

- o **Objective 1:** Explore a reduction of required units (see section on 120 units) to allow students more flexibility in choosing courses.
- o **Objective 2:** Review existing minors and determine their viability.
- o **Objective 3:** Design new minor programs that would be perceived as useful to existing majors and attract student interest**.**
- o **Objective 4:** Conduct needs assessments to ensure that any additional facilities, equipment, and library resources are identified and provided when developing new academic minors.

Outcome 1: Students are increasingly motivated to pursue minor degrees and experience a broadening of horizons as a result of completing a minor.

Goal AP-4: Develop new elective courses which provide students additional fields of academic discovery to complement existing coursework and provide faculty increased opportunities for research and scholarship.

- o **Objective 1:** Determine student and faculty interest for electives within major programs and within general academic areas such as the sciences and humanities.
- o **Objective 2:** Design and implement courses that show promise for student and faculty enrichment and attracting appropriate enrollments.

o **Objective 3:** Conduct needs assessments to ensure that any additional facilities, equipment, library resources are identified and provided when developing new elective courses.

Outcome 1: Students have increased flexibility to explore new fields of study through elective courses.

Outcome 2: Faculty are provided increased opportunities to maintain currency and develop innovative instruction practices through the development and delivery of new course content.

Outcome 3: Students have more opportunities to personalize the content of their educational experience and increased flexibility to create course schedules as a result of having additional electives from which to choose.

Goal AP-5: Review the existing curricula that currently exceed 120 units and implement the best resulting options to reduce students' unit load without compromising the integrity of academic programs.

o **Objective 1:** Conduct formal reviews within majors that currently require more than 120 units for graduation (Engineering Technology, Mechanical Engineering, and Marine Transportation) with the goal of identifying opportunities for lowering existing unit requirements without sacrificing the integrity of the existing programs.
o **Objective 2:** Consider options specific to each degree program which may lower existing unit requirements without sacrificing the integrity of the existing program. This may include moving some STCW requirements out of academic classes to a competency verification system, for example on cruise.
o **Objective 3:** Ensure that the results of programmatic unit-reductions are meeting the intent of Cal Maritime's general education experience, and are not sacrificing the integrity of existing academic program objectives.
o **Objective 4:** Ensure that the results of programmatic unit-reductions do not compromise the institutional principles of increasing retention, throughput, academic excellence, and reduction in time to graduation.
o **Objective 5:** Review institutional proposals for new programs to ensure that whenever possible, they do not exceed the 120-unit goal of the CSU.

Outcome 1: Students and faculty will benefit from the adjustments required to reach or close the gap to 120 units.

Outcome 2: The Academy will have enhanced its reputation with the CSU.

Goal AP-6: Explore the potential of developing a new degree program in Marine Transportation Management and implement it, if viable.

o **Objective 1:** Identify the market for, and requirements of, a Marine Transportation Management degree to increase employment opportunities for graduating students.
o **Objective 2:** Consider developing program options for graduates with a degree in Marine Transportation who may be interested in a short sea-going career followed by a career shore-side.
o **Objective 3:** Consider the feasibility of developing a hybrid degree program between the departments of Marine Transportation and Maritime Policy and Management that would allow for an unlicensed option for students who desire shore-side employment in ports and terminals.
o **Objective 4:** Consider the potential of offering this new Marine Transportation Management program in an online environment.

o **Objective 5:** Conduct a needs assessment to ensure that required resources are identified and provided for, including facilities, equipment, technology, academic training, and library resources.

Outcome 1: The Academy will determine the viability of creating a degree program in Marine Transportation Management and assess the level of campus support for its development.

Goal AP-7: Explore the potential of developing a new interdisciplinary bachelor's degree program in Renewable Energy and implement it, if viable.

o **Objective 1:** Determine the market for, and requirements of, a bachelor's degree in renewable energy to increase employment opportunities for graduating students.
o **Objective 2:** Identify courses currently being taught where content could be revised to accommodate the requirements of a renewable energy major.
o **Objective 3:** Develop additional courses that could both fulfill the requirements of the major and provide additional elective courses for students not majoring in renewable energy.
o **Objective 4:** Consider the potential of offering this new Renewable Energy program in an online environment.
o **Objective 5:** Consider the potential of collaborating with other academic institutions in offering coursework or providing training facilities core to this new program.
o **Objective 6:** Conduct a needs assessment to ensure that required resources are identified and provided for, including facilities, equipment, technology, academic training, and library resources.

Outcome 1: The Academy will determine the viability of creating a bachelor's degree program in Renewable Energy and assess the level of campus support for its development.

Goal AP-8: Explore the potential of developing a new bachelor's degree program in Coastal and Environmental Science and implement it, if viable.

o **Objective 1:** Determine the market for and requirements of a bachelor's degree in Coastal and Environmental Science to increase employment opportunities for graduating students.
o **Objective 2:** Identify courses currently being taught where content could be revised to accommodate the requirements of a coastal and environmental major.
o **Objective 3:** Develop additional courses that could both fulfill the requirements of the major and provide additional elective courses for students not majoring in coastal and environmental science.
o **Objective 4:** Consider the potential of collaborating with other academic institutions in offering coursework or providing training facilities core to this new program and include ways in which our simulation facilities and equipment could be used for this purpose.
o **Objective 5:** Consider the potential of offering for this new Coastal and Environmental Science program in an online environment.
o **Objective 6:** Conduct a needs assessment to ensure that required resources are identified and provided for, including facilities, equipment, technology, academic training, and library resources.

Outcome 1: The Academy will determine the viability of creating a bachelor's degree program in Coastal and Environmental Science and assess the level of campus support for its development**.**

Goal AP-9: Explore the ways and means to address capacity issues on the campus with the goal of moving forward with the Bachelor of Science degree program in Science and Mathematics – Teacher Preparation, which is currently part of the CSU Master Plan.

- o **Objective 1:** Work with faculty and administration to determine, specifically, the capacity issues that must be addressed to allow for the influx of students expected from this degree offering.
- o **Objective 2:** Consider both the potential and challenges of offering courses for this major online.
- o **Objective 3:** Conduct a needs assessment to ensure that required resources are identified and provided for, including facilities, equipment, technology, academic training, and library resources.

Outcome 1: The Academy will determine, based upon resolution of capacity issues, the optimum time to submit the formal request for authorization to offer a bachelor's degree program in Sciences and Mathematics – Teacher Preparation to the Office of the Chancellor, CSU.

Goal AP-10: Complete the development and implement the plans underway for a Master's of Science degree in Engineering and Transportation Management.

- o **Objective 1:** Proceed on the plan to offer this 30-unit degree fully online with an optional onsite component.
- o **Objective 2:** Proceed with the plans that the degree will allow students to concentrate in one of the following three areas: Transportation, Engineering Management, or Crisis/Relief Chain Management**.**
- o **Objective 3:** Conduct a needs assessment to ensure that required resources are identified and provided for, including facilities, equipment, technology, academic training, and library resources.
- o **Objective 4:** Implement the program beginning fall 2010.

Outcome 1: Cal Maritime will expand its course offerings and academic programs to include a Master's of Science degree in Engineering and Transportation Management.

Goal AP-11: Increase the number of course offerings through the Office of Sponsored Projects and Extended Learning.

- o **Objective 1:** Identify single courses, certification programs, initial courses of graduate degrees, and other offerings (e.g., Electronic Chart Display Information System, Bridge Resource Management, courses in maritime management of at-sea personnel) that could be of potential benefit to the maritime industry and the Academy, as well as to the general interest of adult learners within the surrounding community (e.g., courses not directly related to the maritime industry).
- o **Objective 2:** Make decisions about implementing such offerings by working closely with the Industry Advisory Board, the Extended Learning Advisory Board, members of the faculty from all departments, the simulation department, and others as needed.
- o **Objective 3:** Conduct needs assessments particular to the development of new course or program offerings to ensure that required resources are identified and provided for, including facilities, equipment, technology, academic training, and library resources.

Outcome 1: Industry and the Academy will benefit greatly from additional offerings from the Office of Sponsored Projects and Extended Learning.

C. Library Services and Instructional Technologies Support

It is important to enhance our teaching, learning, and study environments. As enrollments increase, additional programs and majors are developed, and teaching methods evolve, our library services and other academic support services must keep pace and lead where appropriate. In addition, the trend among faculties in higher education is a movement away from a top-down mode of lectures and textbooks and

increasingly involving students in discussion and discovery. Much of this kind of learning occurs outside the classroom through active learning experiences, resource based instruction, and problem solving teams.

As we move forward, it will be important to build the best possible library collections and provide top-notch library services in the most efficacious manner to accommodate our students and faculty. In addition, it is important for the library to evolve into an athenaeum that provides quality learning spaces such as quiet study areas and student conference rooms equipped with flexible furniture and learning technology to facilitate teaching and learning.

While our library services continue to play a central role in advancing the research and discovery skills of our students and faculty, our library facility should become a learning center that provides a variety of academic resources and other support services that students and faculty most need outside the classroom while in study or research mode. For example, these offerings should include tutoring services, a writing center, disability services, and academic computing services.

Academic computing services should support general academic computer use, but should also lead in providing new online teaching and e-learning tools. Online technology has become an increasingly valuable way of delivering and augmenting teaching and learning in higher education. Online technologies and e-learning tools can increase flexibility, improve access, augment face-to-face classroom instruction, and generally increase quality in our educational endeavors. While an e-portfolio system will allow students to maintain a cohesive collection of their increasing achievements through the years, providing evidence to employers and Cal Maritime itself of measurable learning outcomes. Our academic departments and programs will benefit greatly from the application of teaching and learning technologies that are up to date, flexible, and ADA compliant.

Properly conceived and developed, our library and academic support services will inspire even more energy and support to intellectual learning and teaching at Cal Maritime. Libraries have tremendous symbolic value demonstrating the esteem with which a community holds its intellectual life. Students in particular are more likely to respect and engage the life of the mind and be encouraged to be independent lifelong learners when top-notch learning services and study facilities are made available.

Goal SS-1: The Library will maintain and improve upon its user-centered approach to delivering library services and position itself at the intellectual crossroads of the campus community.

- o **Objective 1:** Extend library services in the fullest possible way to the online teaching/learning environment.
- o **Objective 2**: Promote the need for a new Library facility that brings together a variety of teaching, learning, and research resources and services that together serve students and faculty better than being apart.
- o **Objective 3:** Enhance the physical facilities of the Library and other learning spaces on campus until a new facility is constructed.
- o **Objective 4:** Maximize the use of computing and other information technologies to deliver superior library services.
- o **Objective 5:** Ensure that faculty and students have the necessary research and reference materials available to support an information rich learning environment.
- o **Objective 6:** Create digital databases of faculty and student research and scholarly activities, campus history materials, and other resources that would add value to the Academy.
- o **Objective 7:** Enhance library holdings to better serve departmental research needs and to enhance teaching and learning innovation across the curriculum.
- o **Objective 8:** Stay abreast and actively participate in CSU Libraries services initiatives – particularly those that are most likely to benefit Cal Maritime students and faculty.

Outcome 1: The majority of students and faculty surveyed will believe that the Library inspires study and research because of its physical spaces and resources and that the Library delivers excellent, state-of-the-art, useful services both physically and online.

Goal SS-2: The Library will expand its Information Fluency Program to ensure that all Cal Maritime students are able to navigate and effectively use the vast amount of information available.

- o **Objective 1:** Develop courses similar to LIB 100 and have them integrated into the curricula as required courses for each major without increasing the total number of credit hours.
- o **Objective 2:** Create curriculum maps to guide the development of embedded information resource based assignments.
- o **Objective 3:** Assist the faculty in developing assignments that make use of information resources.
- o **Objective 4:** Offer faculty development opportunities to facilitate increased use of research and information resources in the curriculum.
- o **Objective 5:** Utilize assessment instruments to regularly gauge student learning in information fluency.

Outcome 1: Students will achieve at least a 75% pass rate before graduation on an assessment instrument approved by the faculty.

Goal SS-3: Create professional development opportunities for faculty and staff to learn and explore the possibilities of offering courses via online learning.

- o **Objective 1:** Make online learning an area of emphasis within our faculty development program.
- o **Objective 2:** Create a series of workshops, forums, and other faculty development opportunities to promote the use of technology in teaching and learning.
- o **Objective 3**: Provide faculty incentives for the development of online courses and programs.
- o **Objective 4:** Provide release time for key faculty to master new software and provide training and mentoring in technological areas, as well as pedagogical aspects of online learning, to other instructors.
- o **Objective 5:** Ensure that faculty members are aware of, and receive commensurate credit for, the development of online courses – particularly in "Basic Areas of Evaluation" through the RTP process.

Outcome 1: The faculty and academic staff at Cal Maritime become conversant and comfortable with discussing and developing online learning opportunities.

Goal SS-4: Provide online courses of high quality (similar or higher quality than current classroom instruction) that have the benefit of reducing the pressure on classroom spaces and increasing access to instruction.

- o **Objective 1**: Create an instructional technology committee to investigate and develop online course offerings to include faculty from all academic departments, Library, IT, SPEL, CETL and a member of curriculum committee.
- o **Objective 2:** Carefully consider which courses: lend themselves pedagogically to online teaching/learning, be converted to alleviate classroom pressures, and/or be converted to increase access.
- o **Objective 3:** Determine what courses to offer fully online or hybrid to include both new courses and current courses that could be converted.

o **Objective 4:** Develop a process/flowchart for the rationale and approval process of converting online courses and developing new online courses.
o **Objective 5:** Ensure that all online courses have an assessment mechanism to evaluate their effectiveness.

Outcome 1: Students will be able to take a selection of online courses from all academic departments.

Outcome 2: Faculty will understand why and how they should develop online courses.

Goal SS-5: Provide online degree and certificate programs where the demand is sufficient to make them financially attractive.

o **Objective 1:** The M.S. in Transportation and Engineering Management team will develop plans for the program.
o **Objective 2:** Sponsored Projects and Extended Learning will work with industry and Cal Maritime faculty to explore and develop relevant course and certificate opportunities.
o **Objective 3:** Sponsored Projects and Extended Learning will explore and create courses of general interest to adult learners within the surrounding community and not directly related to the maritime industry.

Outcome 1: Cal Maritime degree and certificate programs are in demand and self-sustaining.

Goal SS-6: Implement an e-portfolio system for the Academy with each academic department contributing and embedding its use to ensure a culture of evidence and provide students visible evidence of academic achievement.

o **Objective 1:** Identify key/gateway courses for the collection, assessment and evaluation of data.
o **Objective 2:** Provide faculty training using e-portfolios.
o **Objective 3:** Investigate methods for using assessment data to improve departmental course offerings and programs.
o **Objective 4:** Develop professional e-portfolio templates across all academic departments.
o **Objective 5:** Embed e-portfolio use across the curriculum.

Outcome 1: The Academy and academic departments are able to draw upon data collected in the e-portfolio to ensure regular programmatic improvement.

Outcome 2: Students are able to draw upon information collected in the e-portfolio to track learning development and enhance their personal and career goals.

Outcome 3: Students will reflect upon learning development critically, understanding the connection between program learning outcomes and personal success.

D. Training Cruise, Corps of Cadets, and Co-Curricular Activities
Since its inception as the California Nautical School in 1929, Cal Maritime has offered students a unique educational experience, combining leadership development and practical shipboard training with academic pursuits to prepare them for careers in the maritime industry. Essential to the leadership training program at Cal Maritime is the Corps of Cadets, an entity to which every undergraduate student belongs. Through participation in the Corps, cadets develop self-discipline, self-esteem, and character helping them to succeed in their chosen careers.

Additionally, the Training Ship Golden Bear serves as an important platform on which cadets apply technological skills introduced in the classroom and leadership skills acquired from their work assignments and responsibilities with the Corps of Cadets. All undergraduate students participate in at least one summer cruise, regardless of their academic major.

Goal CC-1: Strengthen the Leadership Development Department with a clear vision of its role at the Academy and appropriate staffing.

- o **Objective 1:** Provide valued leadership training to all students.
- o **Objective 2:** All students understand the rationale for wearing the naval officer uniform, regardless of their academic major. They take pride in the Corps, and the professional development opportunity it affords.
- o **Objective 3:** Increase participation in leadership development training and Corps leadership.
- o **Objective 4:** Develop more incentives for students to assume leadership roles, such as providing academic credit for student participation in related trainings.
- o **Objective 5:** Explore options for integrating Corps officers, the ASCMA board and Residential Life staff into a more coherent student leadership organization.

Outcome 1: An effective leadership development program, enabling every graduate to succeed in their chose profession, whether at sea or ashore.

Goal CC-2: Expand community engagement opportunities.

- o **Objective 1:** Increase institutionalization of community engagement with a variety of strategies such as projects embedded into the classroom curriculum.

Outcome 1: An enhancement in the quality of instruction, intellectual retention, and community investment among the faculty and students at Cal Maritime as well as influencing policy and social change in our surrounding community.

Goal CC-3: Increase opportunities for all majors to learn more about the world around them.

- o **Objective 1**: Modify the cruise experience for GSMA and IBL students that would allow students in these majors to spend more time in port and less time at sea in order to more fully experience other cultures and traditions.
- o **Objective 2:** Develop cruise itineraries that will afford opportunities for more relevant, meaningful visits and presentations ashore.
- o **Objective 3:** Expand study abroad opportunities through CSU International Programs and foreign exchanges with other maritime academies.

Outcome 1: Increased global awareness for all majors.

Goal CC-4: Improve the capacity of the Training Ship Golden Bear to deliver high-quality merchant marine training programs.

- o **Objective 1**: Consider additional, shorter-term cruise opportunities to reduce the number of students aboard the Training Ship.
- o **Objective 2:** Authorize construction of the training bridge.

Outcome 1: An effective sea training program.

Goal CC-5: Provide facilities and services that enhance the quality of residential student life.

- o **Objective 1**: Increase the capacity of study areas on campus and aboard the Training Ship.
- o **Objective 2:** Increase the capacity and improve the quality of campus dining facilities, including alternative venues and community kitchens.
- o **Objective 3:** Increase the capacity of campus athletic facilities.

Outcome 1: Residential life that attracts students and fosters *esprit de corps*.

Appendix A - University Strategic Goals

2003 University Strategic Plan

The following university-wide goals represent ongoing initiatives established in the campus' 2003 Strategic Plan:

1. Advance Cal Maritime in a technological world

2. Diversify the curriculum

3. Encourage and support the faculty in their teaching, scholarship, creative activities and service

4. Expand research, training, and education serving industry and government

5. Invest in our people

6. Establish strong, mutually beneficial relationships with external constituencies

7. Maximize utilization of our resources and facilities

8. Enroll increased numbers of California high school students, as well as qualified out-of-state and international students, while developing a more representative student body based on gender and ethnicity.

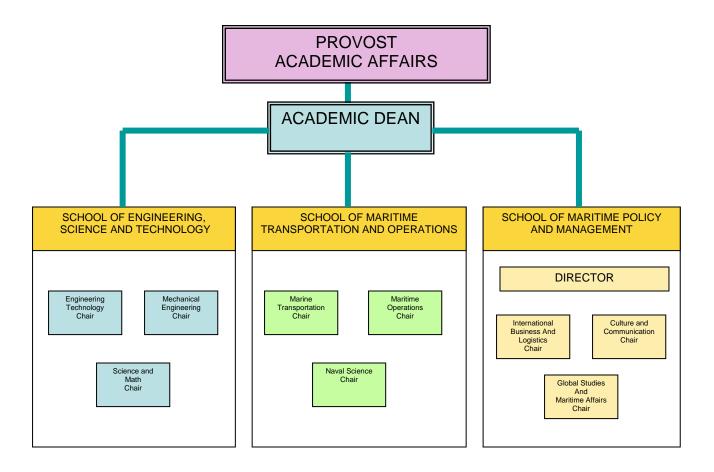9. Foster a supportive living, learning, and working environment

Appendix B - Envisioned Organizational Structure

As Cal Maritime continues to grow physically and academically, we also begin to evolve as an educational institution and to embrace the vision of becoming a maritime university. This evolution will eventually lead Cal Maritime to a point when the current structure of academic departments and degree-granting programs no longer adequately serve the expanded interests and needs of its population. In anticipation of continued growth and the development of desired academic initiatives identified previously in this document, attention was given to various options for revising the current structure of academic programs. Among these options is a three-school model, detailed below, which was borne out of continued and involved discussion among various campus constituencies.

In the spring semester of 2009, the Academy received a gift from the American Bureau of Shipping to establish a new School of Maritime Policy and Management, which would house the academic programs of Global Studies and Maritime Affairs, International Business Logistics and the division of Culture and Communication. The establishment of this new school will solidify the already-strong connections between these assorted disciplines while further encouraging resource-sharing and the propagation of new intellectual and educational avenues for students and faculty.

The proposed three-school model diagramed in this section suggests an organizational scheme in which other academic majors are similarly clustered by discipline, purpose and vision into three schools or units, each of which serve the evolving interdisciplinary needs of students and faculty. While the School of Maritime Policy and Management has already been formed to include a director position, the administrative structure of alternate schools has yet to be determined. Indeed, each school or unit would be expected to conceive an institutional structure which best suits the evolving needs of its programs as well as the university at large.

We define this envisioned organizational structure in this section as a maritime university containing multiple schools offering multiple degrees at both the graduate and undergraduate levels, with an expertise in all things maritime, and a community that supports and encourages participation in strong, diverse, and active extracurricular activities.

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SCHOOL OF ENGINEERING, SCIENCE AND TECHNOLOGY	SCHOOL OF MARITIME TRANSPORTATION AND OPERATIONS	SCHOOL OF MARITIME POLICY AND MANAGEMENT
Engineering Technology Chair — Mechanical Engineering Chair — Science and Math Chair	Marine Transportation Chair — Maritime Operations Chair — Naval Science Chair	DIRECTOR — International Business And Logistics Chair — Culture and Communication Chair — Global Studies And Maritime Affairs Chair

At stake in any document which intends to programmatically lay out future designs and developments, there are many fundamental issues which may not be foreseen, and many that are foreseen, but are not addressed because the processes which would address them have not yet been implemented. Any reorganization of academic departments and structures, however, shall be made with the broadest participation of the entire academic community, including faculty, staff, and administration.

Proposals for the formation of or changes to an academic unit, including such units as a Department, School, Program or College shall be developed with faculty and administrators in concert with the Academic Senate and shall be compliant with the Collective Bargaining Agreement, state and federal laws and regulations, CSU Chancellor's Office Executive Orders and policies, etc.

Considerations would also include curricular issues, academic impact (including impact to current STCW, WASC, ABET and any other third-party accreditation) approvals or certifications. In addition, any re-organization or proposal of a new program shall include a fiscal and budgetary impact proposal, and consider as well impact to: student affairs and student life, Academic Senate membership, and standing committee compositions.

> **Goal OS-1:** Determine the viability and institutional support for transitioning to a three-school model in which academic programs are clustered by discipline, purpose and vision, to become part of a maritime university.

o **Objective 1:** Thoroughly evaluate all potential effects of embracing an alternate organizational scheme for academic affairs in order to anticipate any associated faculty workload and retention issues.

o **Objective 2:** Determine the level of faculty and administrative support for the proposed three-school organizational structure as opposed to any alternate proposed structures.

o **Objective 3:** Provide opportunities for new schools to evaluate their own understanding of blended academic purpose and needs for their respective students.

o **Objective 4:** Ensure that new schools would participate in developing mechanisms to determine how those in administrational roles appropriate to their reorganized structure are selected, and that this process involves input from a variety of campus constituencies.

o **Objective 5:** Ensure that new schools understand that there will be a natural, uneven development towards their objectives – some schools will be actualized before others.

o **Objective 6:** *The School of Maritime Transportation and Operations* will ensure that they are dedicated to issues of marine transportation, shipboard and port operations, military science, maritime safety, professionalism and licensure. The school is focused on operations and is particularly strong in areas that make our global degrees relevant in today's marketplace, including navigation, safety, simulation, environmental protection, leadership, and vessel and port security issues.

o **Objective 7:** *The School of Engineering, Science, and Technology* will ensure that they are dedicated to understanding and advancing issues in engineering, technology and the sciences, especially with respect to energy and the maritime environment.

o **Objective 8:** *The ABS School of Maritime Policy and Management* will ensure that it is dedicated to issues of global maritime policy, international business and logistics, and ethics and communications for students in the Global Studies and Maritime Affairs (GSMA) and International Business and Logistics (IBL) degree programs and in Cal Maritime's other majors; that it will seek curricular and faculty growth in the areas of maritime energy and environmental policy, logistics and supply chain management, international trade and economics, humanitarian logistics, and accounting and finance; and will develop a classroom building for the School.

Outcome 1: The organizational scheme of academic programs on the Cal Maritime campus is reconceived to promote greater communication and to increase in the sharing of talents, ideas, and resources within thematically linked disciplines.

Appendix C - 120 Unit Degree Issues

History

The CSU is, and has been, encouraging campuses to review curricular requirements for graduation for programs with an eye on reducing these requirements to 120 units. While initially, engineering programs were not being as aggressively looked at, there has been a recent request from the Chancellor's Office that the Engineering Deans look at ways to effectively reduce programs to 120 units also.

At Cal Maritime, we have brought both our GSMA and our IBL programs to the 120 unit requirement, and plan to stay there. At the same time we have made a commitment that at every opportunity for program review, we will look for ways to reduce units while not negatively affecting the academic programs. In light of the most recent request to the Presidents that Engineering programs look at this again, we have created a committee consisting of the Academic Dean, the Dean of Instructional Services, and the Chairs of not only ME, and ET, but also of our other greater than 120 unit program - MT. The purpose of this committee has been to review and identify the rationale for the request, and to look at ways we might share best practices in this effort that would ensure consistency where appropriate and share available resources. We also have added the challenge of reviewing our General Education program in this review process with an eye toward meeting the spirit of the Title V General Education requirements.

We have been encouraged in our efforts by at least two additional events. One is the most recent ABET review of the ME program which has recommended the inclusion if possible of more of today's global issues into the curriculum - a recommendation with which we all agree. The second is the development of the campus Academic Master Plan Template which encouraged high unit majors to review curriculums for opportunities to move in the direction of 120 units.

Rationale for 120 Unit Majors

As best as we can determine, the significant rationale for the CSU to encourage 120 unit majors is to reduce time to graduation, students in the pipeline, cost per student to deliver the program, and costs to the students, while increasing the overall graduation rate. While few would suggest that these are not noble in and of themselves, one must also consider the ramifications of any unit reduction in the light of Cal Maritime's realities. These realities include relatively high graduation rates, high job placement rates, and amongst the shortest time to graduation in the system. These realities also include our unique mission, federal and international standards for licensing, shipboard experiences as well as for programmatic requirements for accreditation of Engineering and Technology majors. Then of course there is also the significant effect that a reduction in units in any of these three majors will have a tangible affect on FTES overall, therefore on our funding mechanism.

Process

Our review process for all three majors was similar. We separated the curriculum into those courses required for the major, those required to meet GE, those required for the license, and those that meet our specialized mission even without the license such as cruises, co-ops and experiential learning. In the review of GE courses, with help from the department of MPM, we looked at how close in a strict interpretation of the rules we were to meeting the intent of the GE experience. Conversations of how to close this gap are on-going.

The results of this exercise have been interesting, and we will look at them one at a time, as well as discuss any changes that have been made or proposed to the Curriculum Committee since the beginning of this review.

Engineering Technology
Engineering Technology offers two majors with a BS degree. While changes for one typically affect the other, this paper looks primarily at the MET major. The ET faculty has been working diligently with their colleagues in Maritime Operations as well as Mechanical Engineering. In the last several months, they have implemented several unit reductions that were common to the ME programs as well. Without getting into too much detail, one change revolved around moving a Diesel Engineering course from cruise to the academic year, and combining it with the Diesel Simulation course effecting an overall unit reduction of 1 unit. Unfortunately, while this reduced the academic load overall, it did increase an already heavy ME load in one semester, which is not necessarily consistent with the intention of the CSU unit reduction exercise.

Additionally, working with the same colleagues as well as representatives from the Student Life and Leadership Development departments, several courses in the freshmen year were combined, and will be taught in conjunction with the Freshman Experience of students living on the ship. The student life on the ship including watches will provide opportunities for learning and tracing shipboard systems that will enhance what is being done in the classroom, so less time will be required in the classroom. This was an overall reduction of two units, for both the ME and the ET students.

The ET department is looking at more opportunities for reduction, including beginning the math sequence at Calculus rather than at Algebra and Trigonometry, but we are still awaiting data on the math level of our incoming students to determine the significance of such a change.

The current ET degree as proposed includes 161 units for graduation. The cruise courses consist of 24 units, and those classes clearly needed for cruise preparation or licensing/experiential learning such as the plant operations, welding, and shipboard medical consist of another 17 units.

The bottom line was if we were to give an Engineering Technology degree that stripped away the cruise and ancillary or associated coursework, the ET degree can be considered as a stand-alone 120 unit degree.

Mechanical Engineering
The ME program currently has three options ranging from 166 to 185 units. All three are aggressive programs yet those students who persist are rewarded by a tremendous academic and practical experience. Several changes are under consideration for these programs, including the freshman experience induced unit reduction explained above.

One revision under consideration is the reclassification of two of the "options" – namely the ME Mechanical Engineering option (166 units), and the ME Certified Engineer-in-Training option (181 units). The new program will remove the 15 unit differential as "required" courses of the CPE-IT option and separate them as a minor, and call the ME option the base ME program degree from which future consideration of units reductions may take place. The removal of the 15 units and creation of a minor will allow the students to pursue the degree, and only pursue the minor if they feel they can handle the extra unit load. If at any time it is too difficult for them, they can simply stop taking courses toward the minor and continue on the base ME program track. We will be looking to how the USCG Licensed option (185 units) might also be looked at as a minor or an added on option rather than a "requirement" for a particular degree track.

In looking at the largest option in a similar manner to ET, by removing from the unit count, cruise and associated units (24 and 17 units as above), as well as those courses due to Cal Maritime's unique nature as a power and operations program, but not normally taught in ME programs such as Boilers, Turbines, and Naval Architecture (14 units) the total units for the ME degree would be 128 units. This is a consistent number with the expectations of an ABET accredited program.

The challenge here will be to include more of the GE courses required without increasing the units and without negatively affecting the solid engineering content of the program. Opportunities do exist and are being reviewed that include increasing the number option classes and decreasing the associated courses required by each stem in the program, and looking at some combination of the management and stem design courses as they are integrated with a three-semester design sequence.

Marine Transportation
The Marine Transportation (MT) department is currently undertaking a complete and formal program review. Part of this review process is looking at opportunities for a new program or an adapted program for MT graduates who are looking more at opportunities in the shore-side arena than at sea. If these students can be identified early enough, units required for licensing might be removed from the curriculum, and partially replaced with courses geared toward management opportunities. Not only could this reduce the units to graduation for this major, but by virtue of being less one on one intensive and individually competence based, could reduce teaching requirements of the MT program freeing up opportunities for an expansion of elective offerings.

MT is also looking at a more science based option for its students. Any such revisions to the curriculum will be scrutinized using the objectives of moving in a direction of 120 units rather than an increase in units for its new programs.

Additionally, MT faculty should be encouraged to continue to work with colleagues in Maritime Operations (MO) to look for opportunities to take competencies or courses that might be better suited as cruise training rather than semester coursework should such options become available.

Across All Majors
Additional opportunities across majors exist that will continue to be reviewed as a result of the initial work of this committee and the direction of the Academic Master Plan. Ideas such as combining the math/science and introductory engineering courses such that a reduction of units - coupled with an increase in understanding of concepts - will be reviewed and experimented with if found feasible. Faculty will explore concepts such as writing across the curriculum that may lead to better writing and communications skills ensuring that the students are better prepared for meeting the Graduate Writing Assessment without additional coursework. Continued opportunities for bringing life issues possibly best explored from the social sciences or humanities into the curriculum to support major coursework will be explored in areas of energy, the environment and ethics. Topics such as management, team building and leadership will be better fleshed out in courses requiring or assessing these skill sets for possible better integration into existing courses in the major.

Conclusions
The 120 unit committee is committed to the concepts of effective and efficient use of pedagogical methodology leading to the possible reduction of units for Engineering, Engineering Technology and Marine Transportation majors. In the November 5, 2008 letter to the Presidents on this issue, Gary Reichard writes that in addition to the CSU Engineering Dean's efforts on recruitment, retention and resources:

> *"I encourage the Provosts and faculty to address the second challenge – that of program re-design and unit reduction – as a broad curriculum review effort that might include redesigning long established program requirements and courses, integrating new pedagogical models, shifting program focus to student learning outcomes and intentional learning, and integrating general education learning across the undergraduate experience."*

It is consistent with these words that the 120 unit committee representing the chairs of the three departments and the Academic Dean, working with the Chairs of programs representing courses in general education,

commit to the principles of increasing retention, throughput, academic excellence and reduction in time to graduation of our engineering and technical majors.