NAVAL POSTGRADUATE SCHOOL

THEMATIC PATHWAY FOR REAFFIRMATION PROPOSAL

INSTITUTIONAL REPORT CERTIFICATION FORM

To: WASC Senior College and University Commission
Re: Reaffirmation via Thematic Pathway Review
From: President
       Naval Postgraduate School
       1 University Circle
       Monterey, CA 93943

This report is submitted in support of our institution’s accreditation review. I affirm the accuracy of the information presented and the institution’s intention to comply fully withWSCUC’s Standards and policies.

Signed: [Signature]

Name: Ronald A Route, VADM, USN (retired)
Title: President
Date: 14 May 2018
Naval Postgraduate School
Thematic Pathway for Reaffirmation Proposal

Executive Summary:

The Naval Postgraduate School (NPS) is a graduate university offering master’s and doctoral degrees in more than 70 fields of study to the United States (US) Armed Forces, Department of Defense (DOD) civilians, and international partners. NPS provides relevant, unique advanced education and research programs that increase the effectiveness of US defense forces and enhance US national security. NPS has just completed a new strategic plan to guide programs and activities over the next five years (2018-2023) and has identified inter-related themes on which to focus leading up to the Western Association of Schools and Colleges Senior College and University Commission (WSCUC) reaffirmation of accreditation in 2020.

The overarching theme that defines NPS efforts related to the WSCUC Thematic Pathway for Reaffirmation (TPR) is Pursuing Graduate Education Excellence, with three subthemes:

- Curriculum 2020: Strategically Redesigning the Curricula
- Classroom 2020: Enhancing Teaching and Learning
- Campus 2020: Strengthening the Faculty

Overview of the Institution:

History:
In 1909, a small graduate program in marine engineering, consisting of 10 officer students and two Navy instructors, was established at the Naval Academy in Annapolis. Within three years, the school had added courses of study in ordnance and gunnery, electrical engineering radio telegraphy, naval construction and civil engineering, and enrollment had increased to 25.

During World War II, Congress passed legislation that led to the school becoming a fully-accredited, degree-granting graduate institution capable of meeting the future education needs of the Navy. In December 1951, the Naval Postgraduate School moved to its current campus in Monterey, California. The coast-to-coast move involved 500 students, about 100 faculty and staff, and thousands of pounds of books and research equipment that pumped new vitality into the Navy’s efforts to advance naval science and technology.

Since moving to Monterey, the range of NPS programs has continued to increase. From its origins as a technical and engineering school, NPS has successively added programs related to defense operations, defense management, and national security affairs. This program growth is reflected in NPS’s current four graduate schools.

Mission Statement:
The Naval Postgraduate School provides relevant and unique advanced education and research programs to increase the combat effectiveness of commissioned officers of the naval service to enhance the security of the United States. In support of the foregoing and to sustain academic excellence, NPS will foster a program of relevant and meritorious thesis and research experiences for NPS students that informs the curricula, supports the needs of the Department of Defense, and builds the intellectual capital of NPS faculty. To support the core Navy mission, NPS programs are inherently joint, inter-agency, and international.
Faculty:
NPS faculty are accomplished scholars and professionals. More than 200 tenured and tenure-track faculty members are part of a robust mix that also includes over 300 non-tenure-track faculty. All tenure-track faculty hold doctorates, while the non-tenure-track faculty (including active duty military members) have a minimum of a master's degree and bring extensive operational expertise to both research and teaching.

Graduate Programs:
NPS offers master's and Ph.D. degree programs in engineering, science, technology, defense business, and national security. All programs strive to be both excellent in academic quality and relevant to the needs of the Navy and national security interests. NPS provides unique graduate programs including: Combat Systems; Defense Analysis for Special Operations; Space Systems Engineering and Space Systems Operations; Joint Command, Control, Communications, Computers, and Intelligence (C4I); Cyber Systems Operations; Operational Logistics/Operations Analysis; Manpower Systems Analysis; Meteorology and Operational Oceanography; Total Ship Systems Engineering; Undersea Warfare; Defense Energy; and Foreign Area Officer Studies.

Students:
The NPS student body enrolled in our resident programs consists of military officers from the five US uniformed services, military officers from approximately thirty partner countries, and a small number of civilian federal and state employees. Each year, more than 1,400 students attend NPS in full-time, residential programs. Additionally, NPS currently has over 20 distance learning (DL) master's programs, in which nearly 1,100 students are enrolled annually. DL programs are predominately part-time, with the majority of students being government civilian employees.

Academic Organization:
NPS is organized into over twenty academic departments, academic groups, or academic areas within four degree-granting graduate schools.

- The Graduate School of Business and Public Policy (GSBPP) offers a unique, defense-focused resident MBA program and a distance learning Executive MBA program in addition to master's degrees in five other DOD-relevant areas. Faculty research, sponsored largely by Navy and DOD agencies, brings current, relevant issues to the school and the curricula and returns valuable results to the sponsors.
- The Graduate School of Engineering and Applied Sciences (GSEA) provides cutting-edge graduate technical education, at both the master's and Ph.D. level, to military officers from all services, DOD civilians, and their counterparts from allied countries. Linked to this educational mission, it performs relevant, high-quality applied and classified research in the fields of engineering and applied sciences.
- The Graduate School of Operational and Information Sciences (GSOIS) delivers both master's and Ph.D. education and conducts cutting-edge research responsive to naval and military sponsors. GSOIS focuses on information and operational knowledge domains that have become increasingly important in recent decades: Cyber and Information Technology and Operations, Military Computer Science, Military Operations Analysis and Research, and Special Operations and Defense Analysis.
- The School of International Graduate Studies (SIGS) conducts research and offers master's and Ph.D. degrees in international security studies. Its programs seek to identify and address current and emerging security challenges and to strengthen multi-lateral and bilateral defense cooperation between the United States and other nations. SIGS' curricula include Regional Security Studies, Strategic Studies, Civil-Military Relations, Defense Resource Management, and Homeland Security.
Developing TPR Themes:

During the past year, NPS engaged faculty, staff, and students in strategic planning that identified three themes, supported by ten action areas, across three domains where NPS will focus effort for the next five years. Ratified by the NPS Board of Advisors, this strategic plan was presented to Navy leadership in April 2018. During his recent testimony before Congress, the 76th Secretary of the Navy, Richard V. Spencer, stated, “NPS is a crown jewel. It’s a research-oriented educational institution and center of excellence to forge commercial and academic research relationships in advanced technology for the US Navy, Department of Defense, and all of government.”

In parallel with these campus-wide conversations, NPS leadership charged an Accreditation Steering Committee (ASC) to prepare our TPR proposal and to guide our 2020 self-study and on-site visit. The ASC is comprised of civilian and military faculty and campus leaders, several of whom served in a similar capacity during our 2010 reaccreditation. The strategic planning themes and actions provide the foundation for our TPR. Throughout our reaccreditation planning, the ASC has solicited feedback from across NPS, including from our Faculty Council; Deans, Chairs, and Directors; the President’s Student Council; and from our staff and faculty. An intranet website keeps the campus informed of our ongoing activities. (CFRs: 3.6, 3.7, 3.8, 3.9, 3.10)

Description of Themes:

The overarching theme that defines NPS effort through the current accreditation cycle and beyond is: Pursuing Graduate Education Excellence. We define three subthemes, each with a targeted focus:

- Curriculum 2020: Strategically Redesigning the Curricula
- Classroom 2020: Enhancing Teaching and Learning
- Campus 2020: Strengthening the Faculty

The following sections describe each subtheme and indicate the initiatives and activities on which NPS will focus during the next two years. Relevant WSCUC Standards and CFRs are noted. Each activity in each theme can be traced back to the new NPS strategic plan, and the TPR highlights these aspects for early attention. Resourcing for each activity will be addressed annually.

I. Curriculum 2020: Strategically Redesigning the Curricula

Several internal and external factors suggest the need for a systematic review and re-invigoration of NPS core master’s degree curricula. Internally, recent analysis of our master’s degree programs reveals significant increases in required courses. As a result, we believe that our students are carrying excessive course and credit loads. This may be detrimental to effective learning as well as providing little space in the curricula for breadth, electives, or the addition of new topics. Externally, the Navy is currently engaged in a comprehensive review of Navy education for a defense environment being shaped by rapidly advancing technologies triggering sudden and disruptive change, rapidly shifting political alliances and power, intractable insurgencies, and contests for resources across the planet. (CFRs: 2.1, 2.2, 2.3, 2.4, 2.7, 3.4)

A singular challenge for NPS in redesigning the master’s curricula is to “find space” in our students’ current programs in order to evolve our curricula to be innovative and forward-looking, to include new elements, and to be positioned to best serve Naval, DOD, and national security needs in the future.
In addressing the *Curriculum 2020* theme, NPS will focus on several questions:

- How will we focus our curricula for sponsors, communities, and students?
- How do we create more flexible resident curricula?
- What is the best balance of different modes of education? Resident vs DL? Degrees vs Certificates?
- What new programs will be required to serve emerging Naval and DOD needs?
- What new courses and programs will be required to reflect the rapidly changing national security environment?

In evaluating and re-designing the curricula, NPS will be guided by criteria including:

- Alignment with the NPS Strategic Plan, Navy and DOD current and future education requirements, and NPS Institutional Learning Outcomes. (CFRs: 1.1, 1.2, 2.3)
- Attention to emerging defense and national security fields; student learning environment, including student and program loads; and teaching and learning best practices. (CFRs: 2.1, 2.2b, 2.4, 2.7)

**Curriculum 2020 Summary:**

Our NPS strategic plan calls for a re-design of our academic programs. External reviews provide part of the context in which that re-design should occur. We agree on the need for a comprehensive, systematic review of our current academic programs, both to fit within current constraints and to evolve toward new programs expected to follow from the strategic plan and Navy education reviews. (CFRs: 4.1, 4.3, 4.5, 4.6, 4.7)

**II. Classroom 2020: Enhancing Teaching and Learning**

Two overarching questions shape the goals and initiatives for *Classroom 2020*: Will they improve learning and instruction? How will we know?

*Classroom 2020* emphasizes our commitment to applied learning, the ongoing improvement of resources and services for effective teaching, engaged learning, and quality academic experiences for faculty and students in the resident and DL curricula. *Classroom 2020* leverages established campus resources to implement important initiatives that advance and enhance student learning, teaching, and instruction through the effective integration of pedagogies with instructional technologies. *Classroom 2020* will anticipate future learning contexts and environments as we improve current classrooms and design and develop flexible learning spaces to support teaching, research, and innovation.

The following new and ongoing initiatives support *Classroom 2020*.

**Teaching and Learning Commons** (CFRs: 2.13, 3.5, 4.4, 4.6, 4.7):
The Dudley Knox Library; Graduate Writing Center (GWC); Thesis Processing Office (TPO); Office of Teaching and Learning (OTL); Center for Educational Design, Development, and Distribution (CED/3); and Information Technology and Communications Services (ITACS) are established campus and virtual resources that independently provide services and direct support to the NPS faculty, students, and the educational programs. The new Teaching and Learning Commons (TLC) to start in May 2018 will leverage and formalize the collaboration of these critical campus resources to enhance quality and encourage state-of-the-art innovations for teaching and learning.
Student Learning Initiatives and Student Transitions (CFRs: 1.2, 2.1, 2.4, 2.5, 2.6, 2.10, 2.13, 3.5): Up to 70% of incoming NPS students acquired bachelor’s degrees in fields quite different from the ones they are entering for graduate study. Moreover, nearly all incoming students have been out of the academic environment for 6-10 years. They are out of practice with writing academically, thinking critically, and researching questions. To ensure success, our students must become active and reflective learners. Students can better transition into their graduate programs through courses, tutorials, and workshops designed to refresh or provide prerequisite skills for their area of study. New initiatives to be piloted in 2018 include the development of new multimedia presentations; guided practice; and new in-person, online, and modular tutorials for preparation and just-in-time learning.

Teaching Initiatives (CFRs: 2.3, 2.4, 2.5, 2.6, 2.8, 2.9, 3.3): The Office of Teaching and Learning (OTL) supports faculty across all the stages of their academic careers through programs and services that strengthen the connections between teaching, learning, and assessment practices. Programs and services are offered under the umbrella of Promoting Excellence in Teaching to Advance Learning (PETAL). OTL offers a variety of opportunities for faculty to translate theory into practice utilizing learner centered instruction and authentic assessments ‘of’ and ‘for’ learning. Voluntary participation in PETAL programs and services remains widespread across campus. The development of learner-focused communities of practice (L-CoP) will leverage and expand PETAL’s portfolio of programs and services to consistently incorporate best practices for teaching, learning, and assessment across the curricula in accordance with the strategic plan’s initiatives for educational improvement. New programs started in 2018 include a year-long Learning, Education, and Assessment Fellows (I.EAF) Program and a year-long Teaching Fellows Program (TFP). Plans for 2019 and 2020 include Leaders for Learning to promote past Teaching Fellows as subject matter expert liaisons between their schools, departments, and the TLC.

Learning Spaces and Future Learning Environments (CFRs: 2.5, 3.5, 4.7) In accordance with the NPS strategic plan, we must support different pedagogies and provide flexibility for instruction across disciplines and delivery platforms. Starting in 2018, each school will identify opportunities where learning activities may be enhanced through digital learning and educational technologies. Plans for 2019 and 2020 include funding up to four classrooms of the future, one per school based on detailed specifications and requirements. L-CoP will identify key performance indicators to propose meaningful metrics that validate and support the allocation of human and financial resources. Annual “pop-up” vendor events to enable on-site demonstrations and applications of new educational technologies are also planned.

Classroom 2020 Summary: The NPS Strategic Plan (2018-2023) specifically identifies Educational Improvements as both a strategic direction and a series of action items. Recognizing that instruction and educational resources are “key levers” that support our institutional mission and ensure educational effectiveness, the NPS Provost created a new position, the Associate Provost for Graduate Education (AP-GE). As part of the faculty and institutional leadership team, the AP-GE will engage faculty, students, and staff in campus-wide efforts that promote continuous improvements, enhance teaching and learning, and align resources and collaboration to better support both faculty and students.

III. Campus 2020: Strengthening the Faculty

NPS is expanding its research and education in new areas of importance to the US national defense strategy. Emerging opportunities in autonomous systems, cybersecurity, data analytics, and computing require NPS to compete for fresh talent and to encourage its existing faculty to expand their work to encompass innovative research avenues. These nascent fields of study also demand interdisciplinary collaboration because they depend on cross-cutting capacities and cooperative relationships with industry.
Attracting and retaining the most talented faculty in cutting-edge fields also necessitates fostering a climate of inclusion, equity, and respect for diversity. To meet those objectives, Campus 2020 will explore a number of initiatives to attract and retain junior professors and academic leaders in emerging fields of science, identify strategies to diversify the faculty and selectively develop its talent pool though applied experiential tours, and support interdisciplinary collaboration across NPS and with its partners in industry and government.

**Recruiting, Developing, and Retaining Diverse Talent** (CFRs: 1.4, 3.1, 3.2, 3.3, 3.10, 4.3): Identifying strategies to diversify the faculty at NPS is a top priority for Campus 2020 because it reflects the institution’s commitment to the values of inclusion and respect for diversity. In support of that effort, Campus 2020 will create an Inclusion and Diversity Council to conduct a thorough review of NPS recruitment and hiring policies, including its past efforts to reach out to candidates historically underrepresented in academia. The Council will advise the President and Provost on best practices to foster diversity in all its dimensions and in relation to NPS recruitment, promotion, and leadership succession practices.

To grow the NPS talent pool, Campus 2020 will assess the institution’s ability to hire and retain both postdoctoral researchers and senior faculty leaders as Chaired Professors in areas of strategic importance. Geographic proximity to Silicon Valley, a hub of innovation and the home to some of the best universities and laboratories in the world, well-positions NPS to recruit industry leaders and young scholars who can bring their latest innovations into its classrooms and laboratories. Campus 2020 will study the effectiveness of NPS in attracting new talent and identify ways to improve the talent management process.

To develop NPS faculty and future hires, Campus 2020 will assess the impact of newly proposed programs and fellowships that encourage faculty to work on-site with military partners, private companies, and government agencies. These “experience tours” aim to advance applied teaching and research at NPS by closely coupling the faculty to their operational, technological and policy concerns. Campus 2020 will explore ways to measure the impact of these programs on improving faculty research, student theses, and learning outcomes.

**Supporting Faculty Interdisciplinary Collaboration** (CFRs: 2.2b, 2.3, 2.8, 3.5, 4.3, 4.7): NPS’s departments and schools reflect its main concentrations of disciplinary expertise. Functional academic groups weave together some of these disciplines to address cross-domain challenges. NPS values this integration of content and will seek opportunities to expand its portfolio of interdisciplinary research and education in the areas of data science, maritime environments, cyber operations, and the ethics of war.

Campus 2020 will assess these new initiatives on their programmatic objectives, levels of external sponsorships, student enrollment, faculty research, and learning outcomes. Candidates for in-depth study include the newly-formed Data Science and Analytics Group, which brings together faculty and staff from across NPS to organize existing data resources relevant to national defense and educate military officers and government civilians to integrate data sciences and analytics into future decision-making. Another possible candidate for focused inquiry is the proposed Center on the Ethics of War, which aims to develop a program of ethics research, analysis, and policy advisement to meet the needs of the Department of Defense.

To promote interdisciplinary faculty research and its integration into the curricula, NPS is considering structuring new incentives related to promotion and tenure, merit raises, sabbaticals, and fellowships to signal to its faculty the importance of engaging in cross-domain collaboration. To support outreach to industry, academia, and other government organizations, NPS will also explore ways to streamline its
cooperative research programs to remove inefficiencies and obstacles that hinder collaborative research and development. Campus 2020 will document these efforts, track their progress, and assess their impact on interdisciplinary research and education.

**Campus 2020 Summary:**
The quality of graduate education depends on the quality of faculty. Campus 2020 seeks to empower NPS faculty by looking to improve in the critical areas of recruitment and retention, interdisciplinary research and collaboration, and equity and diversity. Many of these themes are outlined in the 2018 NPS Strategic Plan, making them an institutional priority for the NPS leadership and faculty. Additionally, the newly created position of Associate Provost for Faculty Affairs (AP-FA) will help advance these themes by inviting NPS faculty to participate in and inform Campus 2020 as it reviews faculty personnel issues, faculty research and education, and faculty development programs. NPS is thus well-positioned to begin the process of strengthening its faculty in the years ahead.

**Closing Comment:**
NPS appreciates this opportunity to be in the first cohort of universities to participate in the new TPR process. The TPR alternative allows us to leverage the 2020 WSCUC review to focus on Pursuing Graduate Education Excellence and to advance our institution as we proceed forward in the first years of NPS’ next strategic plan. We look forward with working with WSCUC to assure the effectiveness and success of TPR.