

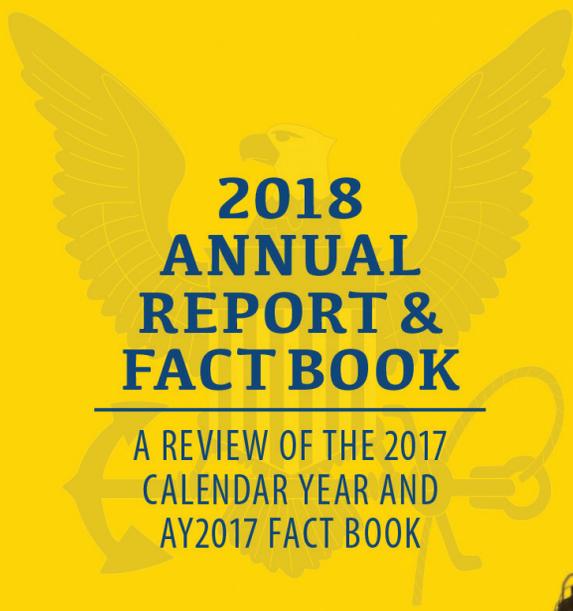


NAVAL POSTGRADUATE SCHOOL

annual report

& FACT BOOK | 2018

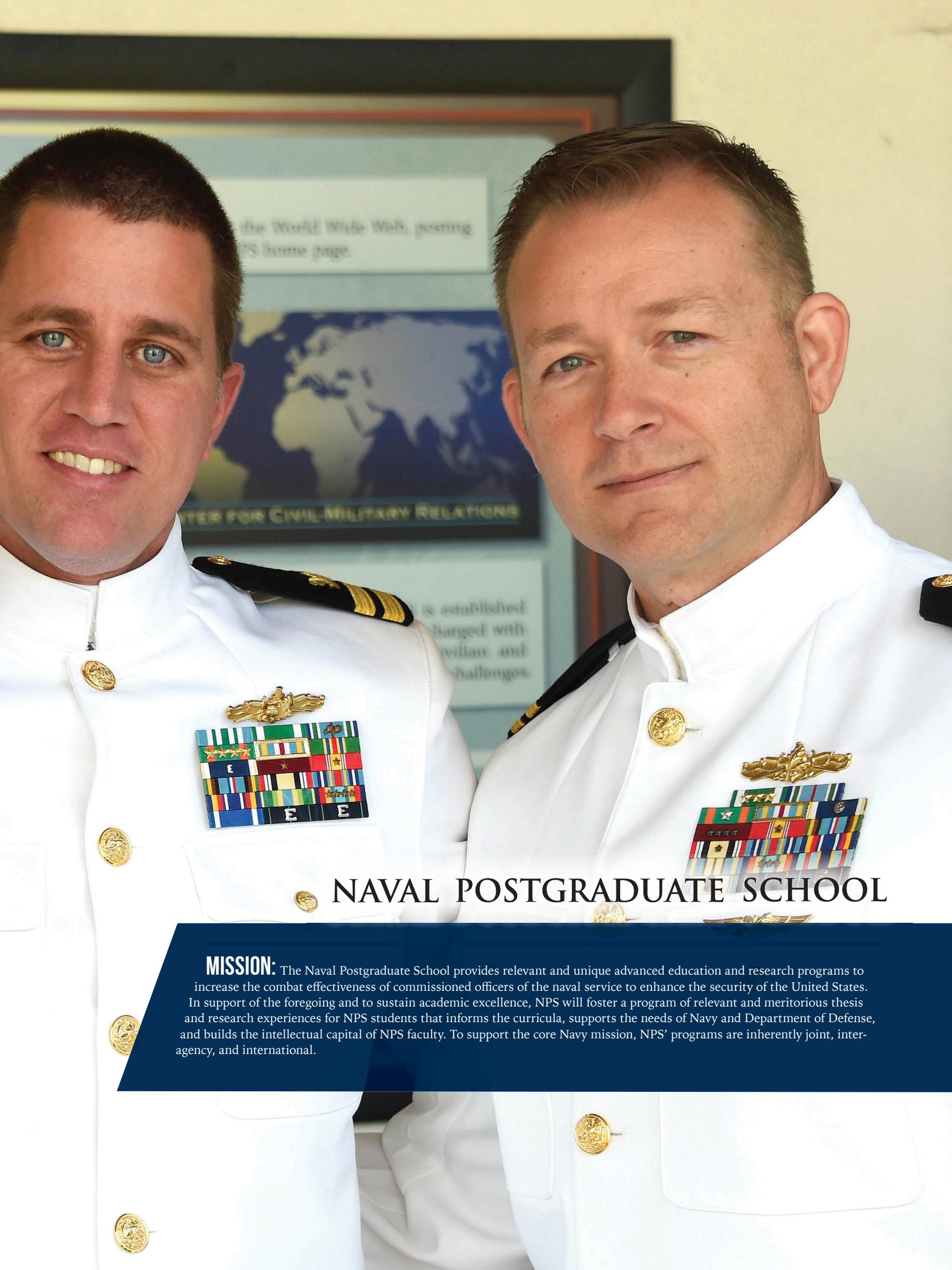




**2018
ANNUAL
REPORT &
FACT BOOK**

A REVIEW OF THE 2017
CALENDAR YEAR AND
AY2017 FACT BOOK





NAVAL POSTGRADUATE SCHOOL

MISSION: 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 Navy and 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.

A MESSAGE FROM THE PRESIDENT

By Ronald A. Route, Vice Admiral, USN (Ret.)

In 2017, the Naval Postgraduate School (NPS) had another productive year of student and faculty success. Our biggest contribution to the Navy, and Department of Defense at large, remained our commitment to educating and developing our future military and civilian leaders to ensure they have the critical skills to succeed in their defense and national security careers.

We graduated 1,250 students who represented all branches of the U.S. military; numerous federal, state, and local agencies; and the countries of our Allies from around the world. The commencement speakers provided inspiration and guidance to the graduating classes, and we were fortunate to have ADM William Moran, Vice Chief of Naval Operations, and Ms. Cathy Lanier, an NPS graduate and former Washington, D.C., Chief of Police, to speak to the September and December graduates.

NPS continued to engage with the local community. This year we welcomed the next generation of STEM leaders to our summer intern program and provided over 80 local high school and college students the opportunity to participate in quality research programs, while giving them insight into possible military or government careers. In December 2017, NPS held its first ever Discover NPS Day. This event opened the NPS campus to the regional community, and over 1,000 local students attended numerous STEM activities and demonstrations, open research labs, and keynote lectures. New York Times columnist, author, and three-time Pulitzer Prize winner Tom Friedman was also present for a discussion on world affairs.

Several of our research efforts directly supported senior Navy leadership. At the Chief of Naval Operations' direction, a team of NPS professors completed a review of the benefits and alternatives to full ship shock trials. In addition, Dr. Nita Shattuck and her team, with the support of CAPT Chuck Good, NPS Surface Warfare Chair, traveled to various waterfronts, from Newport, RI, to Sasebo, Japan, to provide training and guidance on the implementation of the Surface Navy's Circadian Rhythm watchstanding initiative. In other key events, two NPS faculty chairs were selected to become members of SECNAV's Strategic Readiness Review team and provided their extensive experience and expertise to this critical study.

NPS continued to push forward in the Cyber domain. The NPS Cyber Academic Group concluded the initial delivery of its All Hands General Cyber Course to its first class, which consisted of volunteer students. The course, a result of campus-wide collaboration, will provide general cyber awareness to all Navy students at NPS, regardless of their program of study. In other highlights, in Boston, NPS led another successful iteration of the U.S. Navy Digital Experience, HACKtheMACHINE, in partnership with MIT Computer Science and Artificial Intelligence Lab and civilian cyber experts from around the country. Over 300 on-site participants were involved in challenges that focused on maritime cybersecurity,

data science and artificial intelligence, and new modalities for command and control. Navy participants from every warfare community designator, every naval system command, and dozens of other commands around the nation.

The value of NPS was also shown in the responses to Hurricanes Harvey, Irma, and Maria. One of the main goals of the NPS Center for Homeland Defense and Security (CHDS) is to build interagency, intergovernmental, and civil-military coordination and collaboration. Numerous NPS-CHDS alumni were directly leading efforts to recover from the damage caused by the hurricanes.

NPS continued to engage with industry. NPS brought the CEOs of Huntington Ingalls Industries and BAE Systems to a student event that provided a unique, high-level perspective on the relationship between military and industry. The panel discussion, titled "Industry's Support of Navy's Design to Maintain Maritime Superiority," between the CEOs, faculty, and students generated the thoughtful and engaged interaction that is a cornerstone in developing critical thinking and understanding. NPS also hosted the National Defense Industrial Association's Aircraft Survivability Symposium 2017. This event brought together senior level government, military, academia and industry representatives to discuss survivability technologies, survivability sustainment and operations, threats and counter measures, and warfighter lessons learned from recent combat experiences.

The NPS Foundation continued to provide superb support in promoting and advancing the school's mission and strategic priorities. The over \$2 million in total gifts provided to the school the past year provided the margin of excellence to continue the advanced education and research in support of the Navy and Department of Defense. A key area of support was in the Defense Innovation Fund where the Foundation supported early stage research and development projects focused on improving national security and increasing combat effectiveness. The Foundation also instituted the Defense Fellowship Program where young scholars whose recent doctoral research in the field of security studies enrich existing NPS curricula and infuse new ideas and concepts into the NPS classroom.

In 2017, NPS was able to hear from many distinguished leaders from the military and industry. We were fortunate to have Former Defense Secretary Leon Panetta visit us, who provided a strategic perspective that was substantive, unique and brutally honest. It was certainly one of this year's highlights for our students, faculty and staff. Other speakers of note were former Defense Secretary Dr. Robert Gates; Ms. Leanne Caret, Executive Vice President, Boeing; ADM Harry Harris, Commander, U.S. Pacific Command; General John Hyten, Commander, U.S. Strategic Command; ADM Philip Davidson, U.S. Fleet Forces Command; and, Ambassador Reuben Brigety, former U.S. Ambassador to the African Union.



THE NAVAL POSTGRADUATE SCHOOL

Overview

NPS was established as the School of Marine Engineering at the U.S. Naval Academy in 1909. In 1919, the school was renamed the Naval Postgraduate School. In 1949, as part of reorganization within the Department of Defense, Congress authorized the move of NPS from Annapolis, Maryland to Monterey, California. In 1951, NPS officially opened its doors in Monterey. Since its beginning, when the School was chartered to focus on science and technology, NPS has evolved into an institution that serves naval, defense and national security related interests by providing current and future readiness, advances in technology, and educational and operational programs that directly support all facets of national defense and homeland security.

At NPS, four world-class schools oversee 14 academic departments that provide 77 Master's, 16 doctoral degree programs and 60 certificates to approximately 1,432 resident students, including more than 167 international students, as well as to 909 distributed-learning students worldwide. Three research institutes, multiple secure research facilities and 31 centers of excellence add to the wealth of resources. Non-resident courses are delivered to students through online, web-enabled, video-tele-education systems and/or by visiting faculty. Con-

tinuous learning, refresher and transitional educational opportunities abound, and short-term executive education courses and a variety of short courses are also offered by NPS, both in Monterey and abroad.

Over 650 scholars and professionals, seven percent of whom are military officers and approximately one-third of whom are tenured or tenure-track, comprise the NPS faculty. To strengthen expertise and program relevance, and to expedite research successes at NPS, a robust mix of tenured faculty, lecturers and visiting professionals integrate teaching with research, demonstrating the immediate applicability of defense-related theories to defense-related problems, many times resulting in patent-eligible technologies.

The 15-member Naval Postgraduate School advisory board functions as a sub-committee under the Boards of Advisors to the Presidents of the Naval Postgraduate School and the Naval War College. The latter reports to the Secretary of Defense via the Secretary of the Navy and the Chief of Naval Operations on matters pertaining to the school and its graduate education and research programs.

THE NAVAL POSTGRADUATE SCHOOL

A Short History

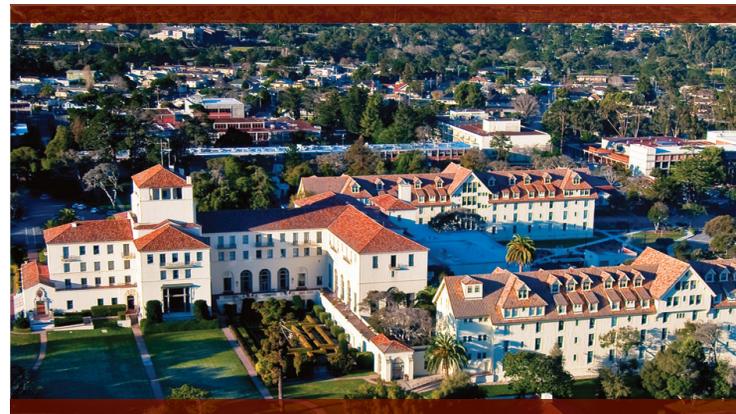
The Naval Postgraduate School was established on June 9, 1909, when Secretary of the Navy George von L. Meyer signed General Order No. 27, establishing a school of marine engineering at the United States Naval Academy in Annapolis. The Navy Secretary's order placed the small program under the direction of the Naval Academy superintendent, who placed the 10 officer-students and two Navy instructors in an attic which served as a classroom and lab.

On October 31, 1912, Meyer signed Navy General Order No. 233, which renamed the school the Postgraduate Department of the Naval Academy. The order established courses of study for its 25 officer-students in ordnance and gunnery, electrical engineering radio telegraphy, naval construction, and civil and marine engineering.

In early 1944, more than a year before the first peace accord of World War II was signed, the Navy convened a board of respected senior officers and scholars to plan for post-war growth of the Naval Postgraduate School. The board's actions set the stage for landmark legislation in the 79th and 80th Congresses that transformed the Naval Postgraduate School into a degree-granting university with expanded research facilities, and its recommendations led to the purchase of the world-famous 627-acre Hotel Del Monte in Monterey. In December 1951, under the supervision of Rear Admiral Ernest Edward Herrmann, the 500 students, 100 faculty and staff and thousands of pounds of books and research equipment of the Naval

Postgraduate School moved lock, stock and wind tunnel from Maryland to Monterey.

In its 100-year history, the Naval Postgraduate School has evolved into an institution that serves America's joint military services, homeland security officials, and dozens of nations. The School's educational and research programs continue to evolve to meet changing Navy goals and national requirements: its innovative academic programs such as Operations Research and Space Systems have significantly influenced academe, the defense community and civilian sector. The more recent development of the cyber academic group and the energy academic group have greatly enhanced the Naval Postgraduate School's traditional technical programs while preparing officers for new strategic commitments. Today's Naval Postgraduate School is both an accredited university and a national asset that helps to prevent wars and to preserve global security.





What is **INNOVATION?**

Roam the halls of the Pentagon for a day and you are likely to hear one word emanating from a fair share of the offices housed in America's DOD headquarters ... Innovation!

It is without a doubt one of the more well-embraced buzzwords of the day, and for good reason. Modern conflict has demonstrated how much of an equalizer innovation can be, especially when less powerful foes can wage conflict with far stronger states, all because they are more nimble, responsive and...innovative.

But what exactly is innovation?

JANUARY 2017

Dr. Philip Pace, Professor of Electrical and Computer Engineering, is **elevated to Fellow** of the Institute of Electrical and Electronics Engineers (IEEE).

Former Secretary of Defense **Dr. Robert Gates** holds the **first Secretary of the Navy Guest Lecture (SGL)** for students, faculty and staff of 2017.

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When a creation has fundamentally changed how something is done is when true innovation happens. This is where NPS can contribute, creating a cadre of serial innovators throughout the Navy and DOD.

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tation of optimized watch standing schedules across the Surface Fleet based on years of research by NPS faculty member Dr. Nita Shattuck, and a slew of students and researchers over more than a decade.

Like the challenges facing defense strategists, the answers are complex. Dedicated faculty have exhausted many hours seeking the key to innovation. Dr. Peter Denning, Chair of NPS' Computer Science Department and Senior Marine Corps Representative Col. Todd Lyons are two of them, and have shared their findings whenever possible through courses, the Big Ideas Exchange and more.

Denning and Lyons will tell you that there is a fundamental key to true innovation ... change. This sounds simple, but it very well may be the most significant barrier to true innovation. In fact, research has shown how less than four percent of 'innovation projects' in business and government actually succeed.

“When a new technology, no matter what it is, is developed, the community of people who should use it must not only learn about that technology, they also need to use it,

and use it enough to become proficient with it,” explains Denning. “At that point, when this proficiency becomes a new practice, innovation has occurred.”

“You’ve got the ideation ... Now, let’s focus on the adoption piece because innovation lies in the adoption of a practice in the community,” added Lyons. “New ideas are necessary, but innovation doesn’t happen until a new practice has replaced on old one.”

As the university looks to build on existing relationships with Defense Innovation Unit Experimental and similar entities, and supporting the Office of Naval Research through its Naval Innovation Process Adoption program, the institution hopes to advance innovation in the DOD beyond not just buzzwords, but beyond prototyping as well.

When a creation has fundamentally changed how something is done is when true innovation happens. This is where NPS can contribute, creating a cadre of serial innovators throughout the Navy and DOD. ■

Was it when researchers from NPS partnered with the Georgia Tech Research Institute to conduct the first-ever UAV swarm dogfight pictured, in February 2017. Or was the patent awarded to Graduate School of Engineering and Applied Sciences researchers Dr. Brij Agrawal, Col. Timothy Sands and Dr. Joe Jun Kim for a novel application of Control Moment Gyroscope systems for spacecraft maneuvers, also in February 2017, an innovation.

Or did innovation happen when, in October 2017, then Commander, Naval Surface Forces Vice Adm. Thomas S. Rowden announced his plan for comprehensive implemen-

FEBRUARY 2017

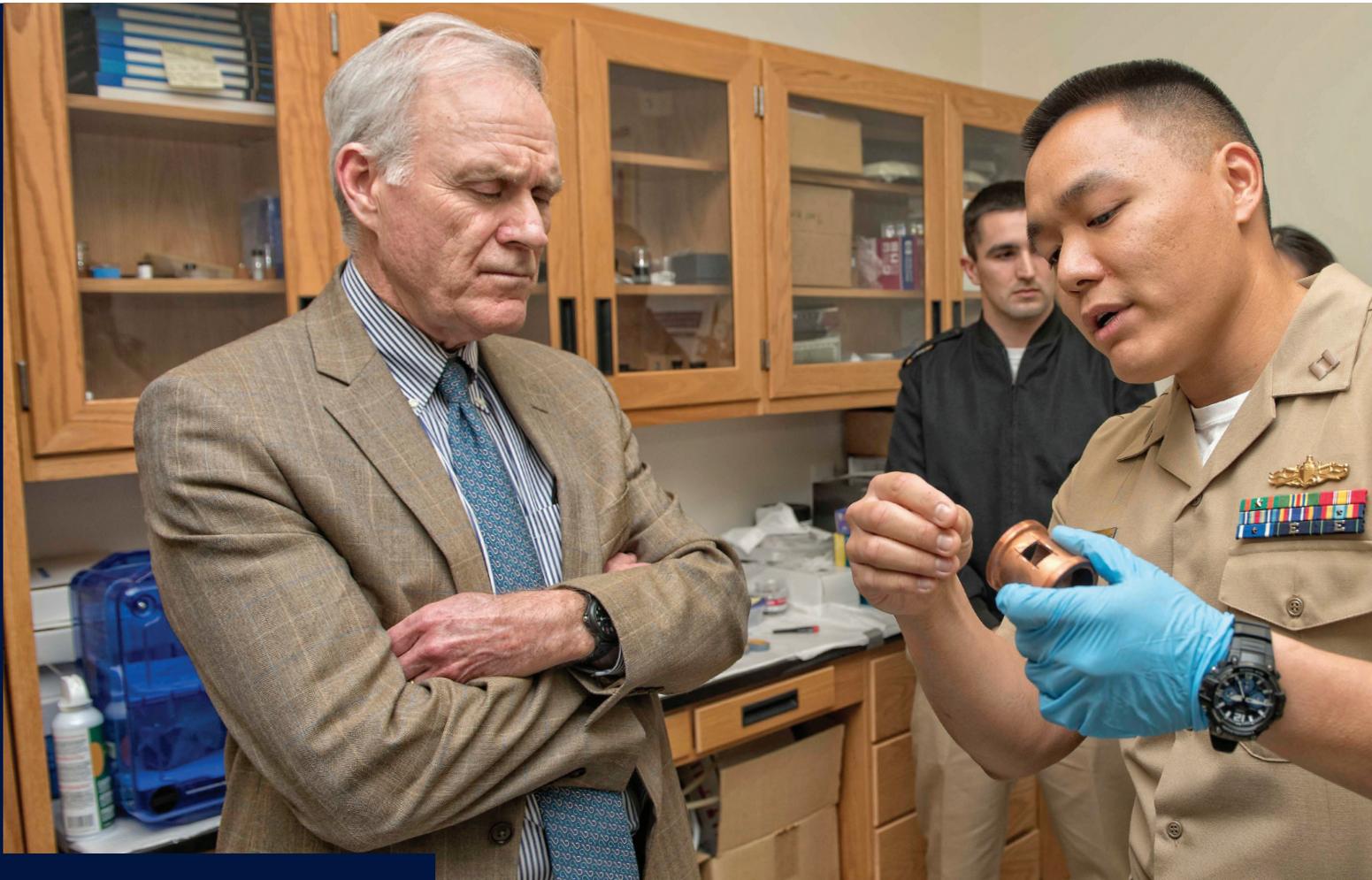
NPS Heritage Committee celebrates **Black History Month** with a slate of special speakers and campus events recognizing the contributions of African Americans to our country.

U.S. Army Lt. Gen. **H.R. McMaster**, then National Security Advisor, adds two books by NPS Professor **Zachary Shore** to his suggested reading list for White House security staff.

A Deeper Understanding of Emerging TECH

Much like innovation, emerging technology has achieved buzzword status, yet its value in defense circles cannot be understated. While the term emerging technology may be coined in reference to a broad collection of new inventions, capabilities and techniques, each of them represent a critical component within the mission set of DOD organizations at all levels and their personnel.

At the Naval Postgraduate School, students across campus are deeply involved in the development, advancement and utilization of emerging technologies. In the university's Materials Science laboratory,



MARCH 2017

NPS students, faculty join industry experts in an exercise to define the mission space for **DARPA's Sea Hunter** autonomous surface vessel.

Boeing executive **Leanne Caret** draws parallels between her organization and NPS through the development of leadership during a Secretary of the Navy Guest Lecture.

pictured, students and faculty, are at the cutting-edge of discovery in advanced materials with impressive applications, from resiliency in space to advanced armor materials for the warrior of the not-so-distant future.

In 2017, Dr. Jonathan Phillips discovered his own contribution to emerging technology, creating a novel approach to supercapacitors leading to a patent for his impressive method that can increase the dielectric constant of the best dielectrics by several magnitudes, higher than traditional methods and researchers ever thought possible.

And researchers at NPS are even

contributing to other organizations' interesting techniques to harness emerging technologies. In July 2017, Space Systems Academic Group (SSAG) Research Associate and doctoral student Giovanni Minelli pitched research in autonomous communications within the increasingly-crowded region of low-earth orbit. Minelli's dissertation examines the development of an infrastructure for CubeSats and ground communication networks, so no matter who launches the CubeSats, communication capabilities remain robust and coordinated.

But, as SSAG chair Dr. James Newman has asserted, NPS' mission requires a different approach than simply performing research in some number of diverse fields of emerging technologies. Rather, the mission of NPS requires our graduates to develop a deeper understanding of these advanced technologies because our graduates may very well be employing them in the future battlefield, where the consequences of success and failure are magnified many times over.

"This is a real defense challenge! The systems are becoming so complex that the technical level of expertise to truly understand them may begin to escape the capability of our officers," Newman said. "If the DOD doesn't keep up, it will never catch up, and we'll have a cadre of officers who are operators of technology, but don't truly understand the technology."

Utilizing technology creates an advantage, but reliance on it creates the opposite ... What happens when the technology doesn't work exactly as advertised, or a component or required supply item to that technology is denied? What happens if the mission, or the adversary, adapts?

As an institution, NPS seeks to instill a deeper understanding of the innovations students work with on a regular basis. When our graduates return to the fleet and field, their fundamental understanding of these systems, combined with an advanced ability to understand and solve problems, will provide the adaptive, nimble force American national security needs. ■



2017 NPS Fact Book

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APRIL
MAY 2017

The Honorable **Jack R. Borsting**, former NPS Provost and DOD Comptroller, becomes the 22nd into the NPS Hall of Fame.

Chief of Naval Operations Adm. **John M. Richardson** serves as the keynote speaker for the 117th Submarine Birthday Ball.

Gene Morris, an **NPS electronics technician** earns a place on a new patent awarded to several researchers for developing a unique barrel design for the Navy's rail **gun**.

Cyber is a TEAM SPORT

As the DOD continues to advance its cyber workforce, one principal notion has become inarguably clear ... Success in the cyber domain can only be achieved through teamwork and cooperation.

Over the past several years, what has been coined as the Fifth Domain of warfare truly has embodied the complexity of its peers, be it surface, undersea, air or space. In the simplest of terms, effectiveness in cyber operations, defensive or offensive, requires a broad range of systems, technologies, and well-educated people.

In execution, the Naval Postgraduate School embraced the notion of teamwork and collaboration in advancing its own effectiveness in education and research in cyber operations. The university developed, and executed, pictured, the first “All Hands Cyber” course, incorporating faculty from several departments across campus. The course development came at the direct request of former Vice Chief of Naval Operations Adm. Michelle Howard, who wanted to teach all of her naval officers, regardless of community, a core set of cyber principles and concepts.

The university’s Cyber Academic Group (CAG) continued its own evolution in partnerships, re-imagining its

role within the university. Taking its role as a hub for interdisciplinary scholarship in the cyber realm seriously, the CAG detailed several specific goals in support of the university’s strategic plan, from tangible support for existing and future work by NPS students and faculty to advancing facilities and access to secure networks for research.

The university also collaborated with its peer institutions within the Navy, establishing the Education Security Operations Center (EDUSOC) to advance cyber security within NPS, the Naval Academy and the Naval War College, where the institutions’ respective missions require them to be on a commercial .EDU network. The EDUSOC was chartered to assist in the prevention, detection, containment and eradication of cyber threats through active monitoring, detec-

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JUNE 2017

NPS researchers specializing in unmanned aerial vehicles joins a team of scientists on an expedition south of the **Antarctic Circle** to study atmospheric micro-observations to better detect and predict electromagnetic wave propagation.

From a group of almost **18,000** highly-qualified applicants, 11 **astronaut candidates** are selected for **NASA’s latest class**, two of whom are NPS graduates.



tion and persistent security solutions applied to all information systems within the member institutions of the Navy Higher Education Information Technology Consortium.

In addition to these critical collaborative efforts, the university also looked well beyond its own gates, even beyond Navy and DOD circles, to a new generation of innovative minds in cyber operations. In September 2017, NPS held its third U.S. Navy Hackathon titled “HACKtheMACHINE” in partnership with the Massachusetts

Institute of Technology in Boston, Mass. The event is a live, hacking challenge, pitting teams of bright young minds in partnership together to solve pressing challenges in maritime cybersecurity.

“This event saw members of government, academia, entrepreneurs, industry and innovators working together to think about maritime security in a very unique way,” said Deputy Chief of Naval Operations for Information Warfare and Director of Naval Intelligence, Vice Adm. Jan Tighe.

As 2018 continues, the institution has set its sights firmly on evolving these opportunities for further collaboration in the realm of cyber operations. NPS continues to build upon the foundations established through new, innovative courses and academic organizations on campus. And as partnerships with peer Navy institutions and beyond evolve, the university will maximize its opportunity to continue its role in supporting effective cyber operations. ■

JULY 2017

Researchers in the **NPS Department of Meteorology** are selected to oversee a five year, \$3 million project to study the effects of atmospheric turbulence on optical propagation.

NPS receives the **Chief of Naval Operations Safety Award** which recognizes commands ashore and afloat for their commitment to outstanding occupational safety and health programs.

Global Diplomacy, **GLOBAL STRATEGY**

Diplomacy was once an effort only in the hands of an elite few ... Senior ambassadors and State Department officials artfully negotiating with their peers on behalf of their respective nations.

But the strategic environment facing the United States is constantly in flux, with not just traditional military threats at the forefront of concern with our national security establishment. Today, issues such as nuclear proliferation and worldwide terrorism, and rapidly evolving issues like cyber, climate change and the global space race, among others, present deeply-challenging threats to the security and prosperity of the United States.

This defense environment of rapid change is not new, and in the application of strategies to confront this environment, the U.S. and its peers around the world have been com-

pelled to call upon and expand existing alliances, leading to broader application of coalition forces and combined operations around the world.

This practice has resulted in something of a change to the execution of diplomacy, of sorts. A far broader range of military officers and service leaders now find themselves in positions where savvy diplomacy would serve them well. And it's not only within the realm of the DOD's military diplomats, the Foreign Area Officers ... Rather, a wide swath of uniformed leaders at many levels are finding themselves in situations where a deeper understanding of the regions they are operating in is in direct relation to their success.

At NPS, understanding regional complexities has long been part of the educational deliverables, especially for the programs that lie within the

university's Departments of National Security Affairs and Defense Analysis, and the Center for Civil-Military Relations, among others. Over the years, faculty expertise in the world's varied regions, along with expanded expertise in critical areas such as ethics and strategy, has permeated some of these core values in coursework throughout the campus. The result is a robust resource in regional expertise.

"We teach in regionally-focused concentrated curricula, and our faculty is really organized with this in mind," noted Dr. Naazneen Barma, Associate Professor. "The result is a depth of regional expertise here that you just don't find in political science departments at other universities around the country. In addition, we are aligned with the COCOMS, so we teach content matter that is directly aligned with where our graduates are going to be."

Evidence of the results of this expertise, and its alignment with the regional goals of the DOD's unified Combatant Commands, exists within the hundreds of graduates these programs provide to the varied services and partner nations on an annual basis. And the quality of their scholarship is without peer.

Take September 2017 NSA graduate U.S. Air Force Maj. Andrew Chen, pictured. Chen's award-winning thesis on Kazakhstan's Goeconomic Quest for Power is a robust, timely analysis of how one former Soviet Union republic has managed to overcome economic uncertainty and ethnic strife to become a wealthy, international player in Central Asia. Chen's efforts were widely applauded for its deep analysis of geo-economics, and its strategic application to a critical region of the world, and a

AUG 2017

Defense Analysis students brief senior officials at U.S. Southern Command on research to discover the influence of foreign state actors within a social movement.

NPS students convert an old tow tank from the 1970s into a wave-making machine that will provide enhanced research capabilities today in fluid mechanics and hydrodynamics.

critical peer group of former Soviet republics.

As the university continues to provide graduates with an advanced, regionally-specific program of study, the DOD becomes increasingly more populated with men and women who are savvy, respectful diplomats and global strategists. ■

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Dr. Naazneen Barma,
Dept. of National Security Affairs

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SEP 2017

NPS joins Navy commands across the U.S. for the second annual “Bells Across America for Fallen Service Members” ceremony, honoring 182 Sailors who died while on active duty over the past year.

NPS’ RoboDojo Lab hosts its second Ant-Weight Battlebot competition for remotely-operated mini-robots.



More Than Just **BIG DATA**

As computing, sensing and other technologies have advanced over the years, one notion has become abundantly clear ... data is big. In fact, over the past few years, organizations have been challenged with having too much data, and grown perplexed over what to do with it, and how to use it.

The utilization of big data to make informed decisions by decision-makers is now a relatively common practice in large organizations, and the DOD is no different. NPS academic and research sponsors are finding ways to bring the validation of data science into their respective

OCT 2017

Commander, Naval Surface Forces
Vice **Admiral Thomas Rowden**
announces comprehensive use of NPS
sleep study research and optimized
watchbill program to be implemented
fleet-wide.

Dr. Vint Cerf, considered a Father of the
Internet for co-inventing **TCP/IP proto-
cols**, offers the latest Secretary of the Navy
Guest Lecture.



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The potential for impact from data science remains well beyond the Navy’s reach at this time ... But over the past year, NPS has implemented programs that lay the foundation to make a difference.

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Clearly, however, the potential for impact from data science remains beyond the broad Navy’s reach at this time. Over the past year, however, NPS has implemented programs that lay the foundation to make a difference.

Grad student, faculty research efforts charged with using it effectively, will only increase. As NPS looks at ways to further institutionalize data science on campus, it will provide increasing opportunities to further institutionalize data science in the DON. ■

The university executed the first offering of a data science certificate in September of 2017, with advanced graduate level coursework in data mining and analysis, statistics and machine learning. In addition, the Naval Air Systems Command has held in Data Challenge at NPS in successive years with plans to continue. And consistent opportunities surface to examine the role of data science, such as December’s panel discussion on the role of big data in ocean science, pictured.

programs, but freely admit that the Navy faces a significant challenge ... It simply does not have the resident expertise to perform true data science across its broad organization.

Looking to be a part of the solution to this issue, and seeing a clear need for the ability to advance data science in the DON, the university began building expertise in this area a number of years ago, and also developed a dedicated track to its operations research program specifically for data scientists – a track that was opened to all operations research students in 2017.

Still, IDC’s Data Age 2025 study came to the conclusion that is somewhat in contradiction to the notion that the data explosion is anywhere near over. In fact, this study would lead you to believe that 2017 is closer to the beginning of the data revolution, than to the end.

With this in mind, the university’s role in data science, and the myr-

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NOV
DEC 2017

Twenty-one senior military officers and civilian leaders from 16 nations participate in the university’s **Executive Defense Decision-Making Course**.

More than **1,000** Monterey Peninsula elementary through high school students and hundreds of community and campus members celebrate **Discover NPS Day**.

Chief Information Officers from the intelligence alliance known as **FiveEyes, meet at NPS** to discuss collective and individual national challenges.

2017 NPS QUICK FACTS

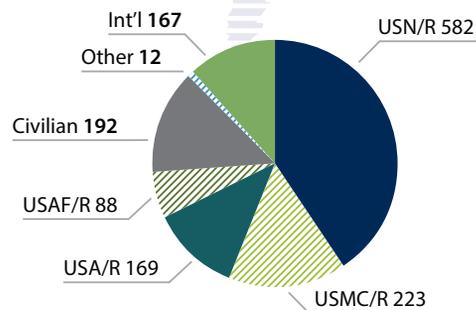
2017 STUDENT ENROLLMENT

2,697 average on board
1,432 RESIDENTIAL
909 DISTANCE LEARNING
356 CERTIFICATE

2017 DEGREES AWARDED

1,193
1,173 MASTER DEGREES
20 DOCTORATES

NPS GRADUATE DEGREES CONFERRED BY SERVICE



ACCREDITATION

- WASC Senior College and University Commission (WSCUC)
- Accreditation Board for Engineering and Technology (ABET)
- Association to Advance Collegiate Schools of Business (AACSB)
- Network of Schools of Public Policy, Affairs, and Administration (NASPAA)

FACULTY & STAFF

228 Tenure Track Faculty
384 Non-Tenure Track Faculty
35 Military Faculty
348 GS/Wage Grade staff members

RESEARCH

- Approx **\$100 million** in sponsored research funding
- Research programs are aligned to NPS curricula
- NPS research is valuable to improving the security of the U.S.

FINANCES

- \$387 million** Operating budget: including military salary
- \$91 million** Direct Authorization: without military salary
- \$104 million** Reimbursable Income

ACADEMIC FACILITIES

102 Classrooms That Offer Media Technology
19 Classrooms With Video-Teleconferencing
19 Classified Facilities
19 Labs

Source: Office of Institutional Research, Reporting and Analysis (IRRA)

LEADERSHIP

President: Ronald A. Route, Vice Admiral, USN (Ret.)
Provost: Dr. Steven R. Lerman
Chief of Staff: CAPT Mike Ward, USN
Vice Provost: Dr. Douglas Moses
Dean of Students: CAPT Markus Gudmundsson, USN
Dean of Research: Dr. Jeffrey Paduan
University Librarian: Eleanor Uhlinger

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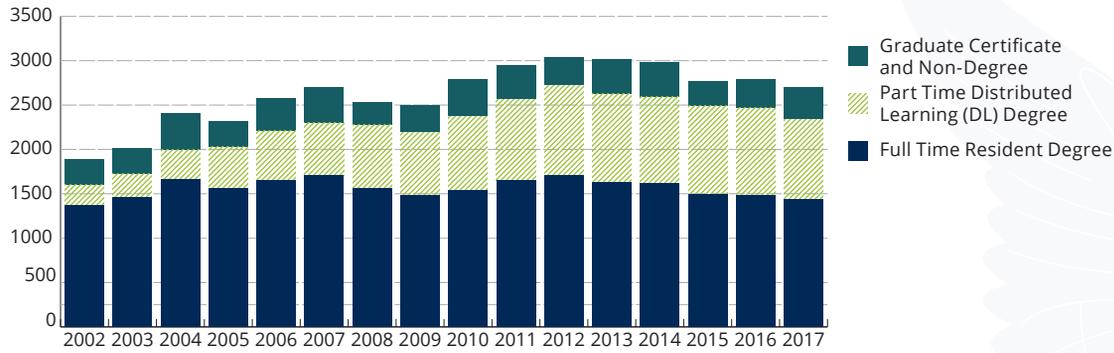


INSTITUTIONAL RESEARCH,
REPORTING, AND ANALYSIS
NAVAL POSTGRADUATE SCHOOL
IRRA@nps.edu • 1 University Circle, Monterey, CA 93943

STUDENTS & PROGRAMS

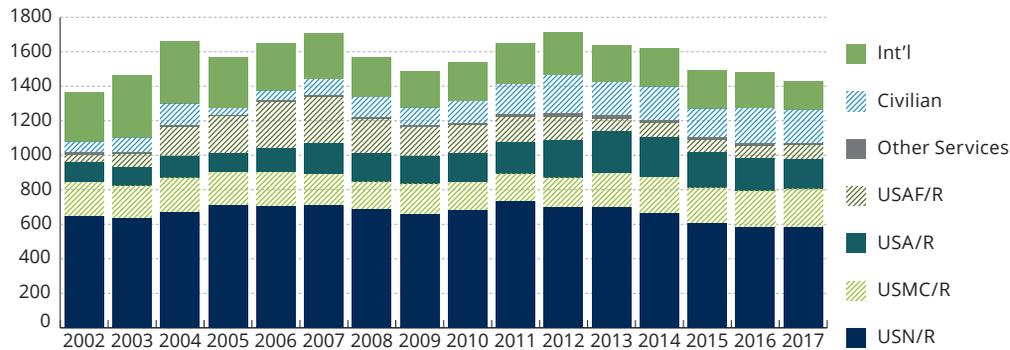
GRADUATE PROGRAM STUDENTS

By Type of Enrollment



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Full Time Resident Degree	1,366	1,464	1,660	1,563	1,649	1,707	1,565	1,487	1,536	1,647	1,712	1,633	1,616	1,494	1,479	1,432
Part Time Distributed Learning (DL) Degree	238	264	336	467	566	599	718	705	839	920	1,013	1,000	977	997	989	909
Graduate Certificate and Non-Degree	287	289	410	293	368	398	249	304	414	377	307	385	385	276	326	356
Total	1,891	2,017	2,405	2,324	2,584	2,704	2,531	2,496	2,789	2,944	3,031	3,018	2,979	2,767	2,794	2,697

Resident Students by Service

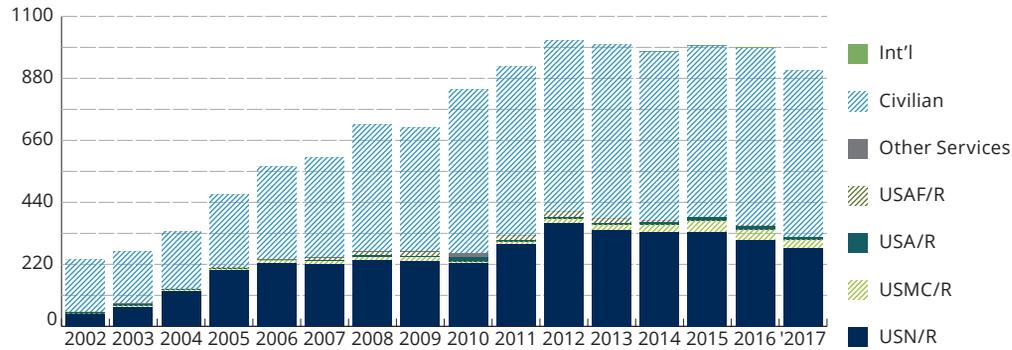


	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
USN/R	648	636	671	709	702	708	685	660	681	731	700	698	666	606	581	582
USMC/R	195	186	198	192	201	183	163	178	164	165	173	199	207	213	223	223
USA/R	115	106	126	110	134	179	163	157	165	182	216	242	231	207	187	169
USAF/R	43	80	172	217	274	269	201	167	166	145	133	74	86	74	73	88
Other Services	13	9	7	5	9	11	10	10	10	15	19	19	15	14	14	11
Civilian	63	86	126	41	56	92	114	103	127	174	223	192	191	166	204	192
Int'l	289	361	360	290	274	266	230	213	224	235	248	211	222	222	207	167
Total	1,366	1,464	1,660	1,563	1,649	1,707	1,565	1,487	1,536	1,647	1,712	1,633	1,616	1,494	1,479	1,432

Numbers may not sum to total due to rounding.

DISTANCE LEARNING DEGREE STUDENTS

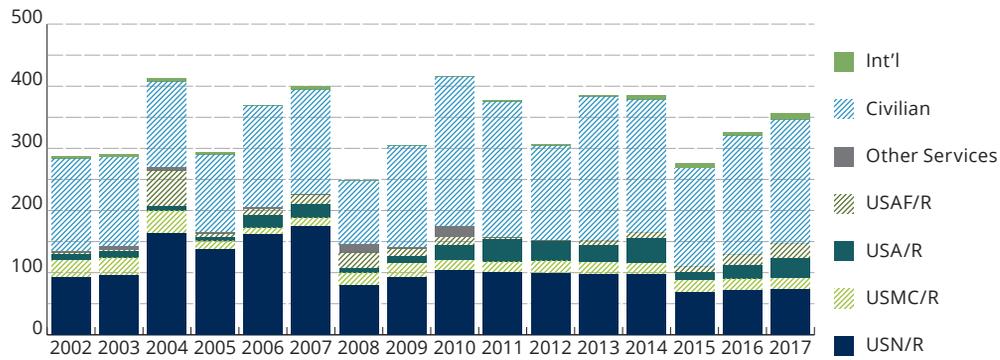
By Service



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
USN/R	44	68	124	199	226	220	234	232	226	291	366	343	335	335	306	277
USMC/R	3	7	7	6	7	11	12	13	4	9	16	17	26	39	39	31
USA/R	4	5	3	2	0	2	4	3	17	4	5	7	8	12	11	8
USAF/R	0	0	0	3	5	10	15	18	0	20	22	14	6	1	1	1
Other Services	0	1	0	0	1	1	2	1	11	0	0	0	0	0	0	0
Civilian	186	184	202	257	328	355	451	438	582	597	605	620	601	608	630	592
Int'l	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0
Total	238	264	336	467	566	599	718	705	839	920	1,013	1,000	977	997	989	909

AVERAGE ON BOARD STUDENT POPULATION

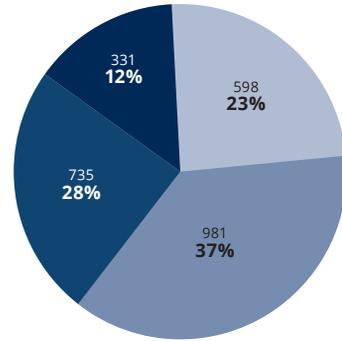
Graduate Certificate and Non-Degree Students by Service



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
USN/R	93	96	163	137	161	175	80	93	103	100	99	97	98	68	72	74
USMC/R	27	28	37	14	12	13	20	22	17	18	20	20	17	20	18	17
USA/R	9	11	7	6	20	22	8	11	24	36	31	27	40	12	22	32
USAF/R	3	1	58	6	9	16	24	13	13	2	1	8	9	10	17	24
Other Services	3	6	5	3	3	1	13	2	17	1	1	0	0	0	0	0
Civilian	148	144	137	124	164	167	103	163	241	219	153	231	214	158	192	199
Int'l	4	4	5	4	1	5	1	1	1	2	2	2	7	8	5	10
Graduate Certificate and Non-Degree Totals	287	289	410	293	368	398	249	304	414	377	307	385	385	276	326	356

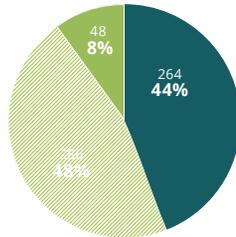
GRADUATE PROGRAM STUDENTS

NPS (Total 2644)



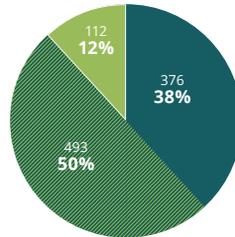
■ GSBPP ■ GSEAS ■ GSOIS ■ SIGS

GSBPP (Total 598)



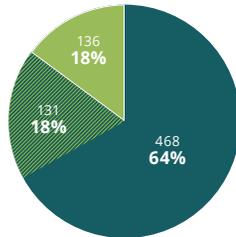
■ Full-time resident ■ Distance Learning ■ Certificates

GSEAS (Total 981)



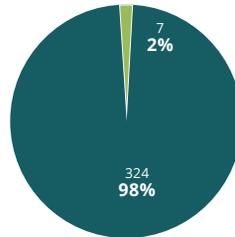
■ Full-time resident ■ Distance Learning ■ Certificates

GSOIS (Total 735)

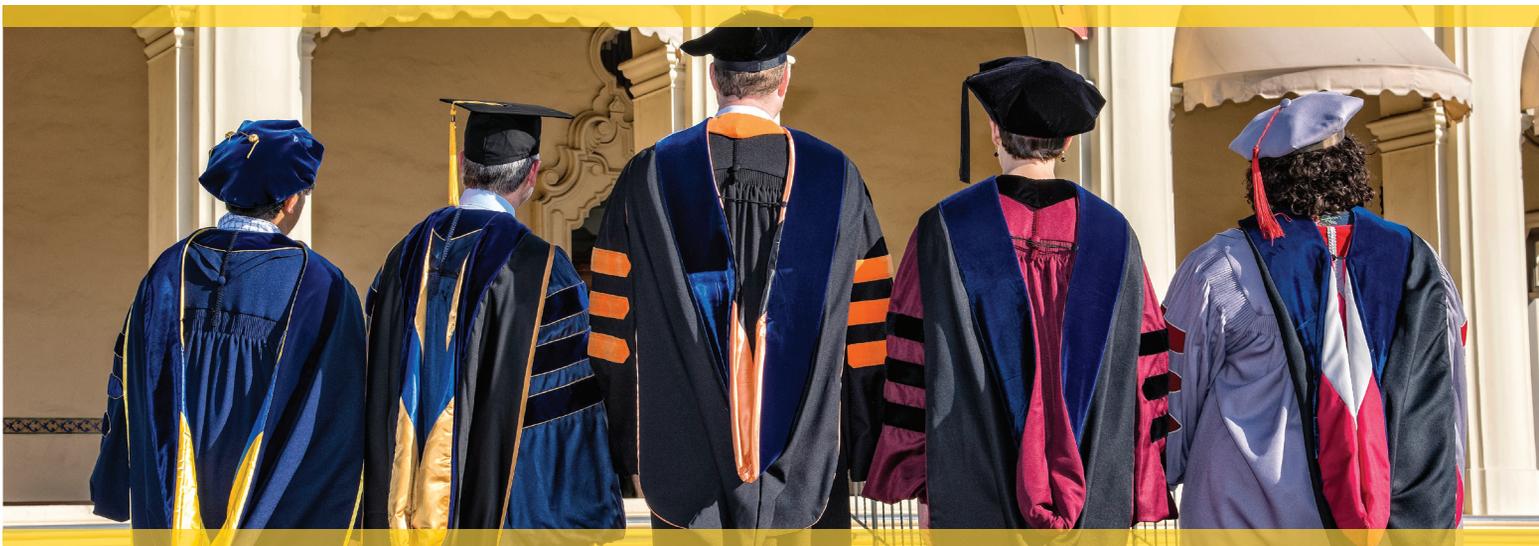


■ Full-time resident ■ Distance Learning ■ Certificates

SIGS (Total 331)



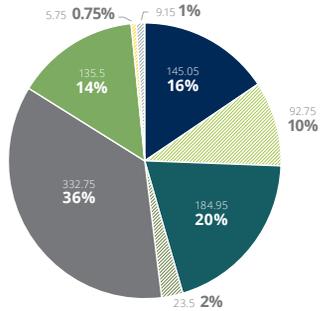
■ Full-time resident ■ Distance Learning ■ Certificates



GRADUATE PROGRAM STUDENTS

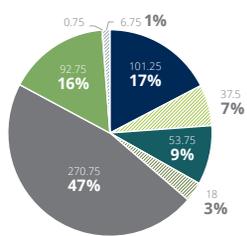
By USN/R Community Average On Board 2017

Total USN/R Communities (Total 930)

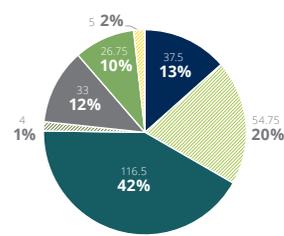


■ Surface Warfare ■ Submarine Warfare ■ Aviation ■ Special Operations & Warfare ■ RL5
 ■ Special Duty ■ Staff Corps ■ Limited Duty ■ Warrant Officer ■ Enlisted

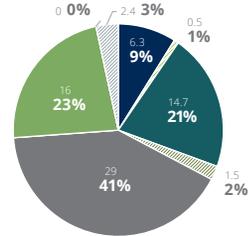
Full-time Resident (Total 582)



Distance Learning (Total 278)



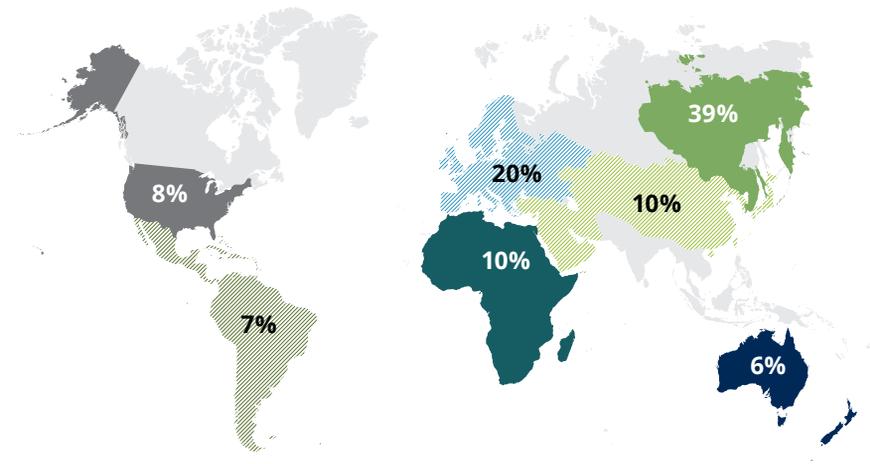
Certificates (Total 70)



INTERNATIONAL RESIDENT DEGREE STUDENTS

By Region - Peak Quarter Enrollment, Summer 2017

Australia and New Zealand		Africa		Europe		Far/Near East	
Australia	10	Botswana	1	Albania	1	Indonesia	6
New Zealand	0	Cameroon	1	Denmark	3	Korea	10
Total	10	Mali	8	Estonia	1	Japan	1
		Senegal	1	Finland	2	Nepal	1
		South Africa	1	Georgia	2	Philippines	3
		Tunisia	1	Germany	7	Singapore	37
		Uganda	3	Greece	7	Sri Lanka	3
		Total	16	Italy	1	Taiwan	2
				Netherlands	2	Thailand	1
				Norway	2	Total	64
				Romania	1		
				Sweden	3		
				Switzerland	1		
				Ukraine	1		
				Total	34		
North America		Caribbean, Central and South America					
Canada	9	Argentina	1				
Mexico	5	Brazil	2				
Total	14	Colombia	1				
		Dominian Republic	1				
		El Salvador	1				
		Peru	5				
		Total	11				
Central/East Asia and Middle East							
Azerbaijan	1						
Bahrain	1						
Israel	1						
Jordan	1						
Lebanon	2						
Pakistan	7						
Saudi Arabia	4						
Total	17						



Degree Students Int'l Student, Peak Qrt Enrollment	
Australia & New Zealand	10
Central/East Asian & Middle East	17
Africa	16
Caribbean, Central & South America	11
North America	14
Europe	34
Far/Near East	64
Total	166



2017 NPS Fact Book

GRADUATE DEGREE ENROLLMENT

All degrees by Curricula

Resident Programs	Curriculum Number	USN	USMC	Other Services	Intl Military & Civilian	U.S. Civilian	Grand Total
GSBPP							
Acquisitions & Contract Management	815	24	11	25	2	0	62
Defense Business Management	809	0	0	0	0	5	5
Defense Systems Analysis	817	0	15	0	1	0	16
Defense Systems Management (International)	818	0	0	0	2	0	2
Financial Management	837	50	10	1	2	0	63
Financial Management (Energy Specialty)	838	7	0	0	0	1	8
Information Systems Management MBA	870	5	0	1	2	0	8
Manpower Systems Analysis	847	25	14	1	9	0	48
Materiel Logistics Support Management	827	6	9	0	1	0	16
Resource Planning/Mgmt for International Defense	820	0	0	0	2	0	2
Supply Chain Management	819	12	0	2	0	0	14
Systems Acquisition Management	816	0	0	19	1	0	20
Transportation Management	814	1	0	0	0	0	1
GSBPP Total		130	59	49	22	6	265
GSEAS							
Applied Mathematics	380	0	0	9	0	0	9
Applied Mathematics (PhD)	381	1	0	1	0	1	3
Applied Physics (PhD)	537	4	0	0	0	0	4
Combat Systems Science & Engineering	533	24	4	3	9	0	41
Electrical Systems Engineering - Energy Focus	593	0	0	0	0	0	0
Electronic Systems Engineering	590	33	11	1	11	0	56
Electronic Systems Engineering (PhD)	594	4	1	0	2	0	7
Engineering Acoustics (PhD)	536	0	0	0	2	1	3
Meteorology	372	0	0	1	0	0	1
Meteorology (PhD)	387	2	0	1	0	0	3
Meteorology and Oceanography (METOC)	373	36	0	0	1	0	37
Naval/Mechanical Engineering	570	36	0	2	12	0	49
Naval/Mechanical Engineering - Energy Focus	563	6	0	0	0	0	6
Naval/Mechanical Engineering (PhD)	573	1	0	0	0	2	3
Oceanography	440	0	0	0	2	0	2
Oceanography (PhD)	443	2	0	0	0	0	2
Space Systems Engineering	591	17	1	0	0	0	18
Space Systems Engineering (PhD)	597	1	0	0	0	4	5
Space Systems Operations	366	12	7	2	0	0	21

GRADUATE DEGREE ENROLLMENT *continued*

Space Systems Operations (Intl)	364	0	0	0	1	0	0
Systems Engineering	580	25	0	7	9	0	40
Systems Engineering (PhD)	581	2	1	1	0	17	20
Systems Engineering Analysis	308	16	0	0	2	0	18
Undersea Warfare	525	20	0	0	0	0	20
Undersea Warfare (International)	526	0	0	0	8	0	8
GSEAS Total		242	25	27	58	24	376
GSOIS							
Applied Cyber Operations	336	5	0	0	0	0	5
Computer Science	368	26	19	2	7	17	70
Computer Science (PhD)	384	0	0	0	0	2	3
Cyber Systems and Operations	326	21	0	8	0	1	29
Human Systems Integration	362	0	0	3	0	0	3
Information Sciences (PhD)	474	1	3	4	0	13	21
Information Strategy and Political Warfare	698	1	0	23	3	0	27
Information Systems & Technology	370	0	28	3	2	2	34
Information Warfare	595	16	0	0	1	0	17
Joint Cmd, Cntrl, Comm, Comp/Intel (C4I) Sys	365	0	4	0	1	0	5
Joint Operational Logistics	361	18	0	0	1	0	19
Modeling, Virtual Environments & Simulation	399	1	11	3	3	0	18
Modeling, Virtual Environments & Simulation (PhD)	398	1	1	1	0	3	6
Network Operations and Technology	386	18	0	0	0	0	18
Operations Analysis	360	34	24	12	12	1	83
Operations Analysis (PhD)	382	0	1	0	0	0	1
Software Engineering (PhD)	385	0	0	0	0	2	2
Special Operations	699	13	2	73	23	0	110
GSOIS Total		154	92	131	52	40	468
SIGS							
Civil-Military Relations	685	0	0	0	4	0	4
Combating Terrorism: Policy and Strategy	693	0	0	0	13	0	14
Europe and Eurasia	684	13	9	5	3	0	31
Far East, Southeast Asia, Pacific	682	17	11	10	6	0	43
Homeland Defense and Security	692	0	0	8	0	119	127
Homeland Security and Defense	691	15	0	3	0	0	19
Middle East, South Asia, Sub-Saharan Africa	681	16	8	21	0	0	45
Security Studies (PhD)	694	3	0	1	0	3	8
Strategic Studies	688	3	0	1	8	0	12
Western Hemisphere	683	7	4	11	0	0	23
SIGS Total		74	32	60	35	123	324
RESIDENT TOTAL		598	207	268	167	192	1432

Numbers may not sum to total due to rounding.

Source: Office of Institutional Research, Reporting and Analysis (IRRA)

GRADUATE DEGREE ENROLLMENT *continued*

Distance Learning Programs	Curriculum Number	USN	USMC	Other Services	Intl Military & Civilian	U.S. Civilian	Grand Total
GSBPP							
Contract Management (DL)	835	0	4	0	0	30	34
Executive Master of Business Administration (DL)	805	106	7	0	0	0	112
Executive Master of Business Administration(DL-Civ)	807	0	0	0	0	73	73
Program Management (DL)	836	0	0	0	0	67	67
GSBPP Total		106	11	0	0	170	286
GSEAS							
Aviation Systems Engineering (DL)	312	10	5	4	0	3	22
Electronic Systems Engineering (DL)	592	1	1	2	0	76	79
Mechanical Engrg for Nuclear Trained Officers (DL)	572	55	0	0	0	2	57
Naval Test Pilot/Mechanical & Aerospace Engineering Program (DL)	613	3	0	0	0	0	3
Reactors - Mechanical/Electrical Engineering (DL)	571	6	0	0	0	0	6
Systems Engineering (DL)	311	27	2	0	0	234	263
Systems Engineering Management-PD21 (DL)	721	6	0	0	0	32	38
Underwater Acoustic Systems (DL)	535	1	0	0		26	26
GSEAS Total		108	8	6	0	371	494
GSOIS							
Cost Estimating and Analysis (DL)	379	3	0	0	0	40	43
Human Systems Integration (DL)	359	18	1	1	0	6	25
Systems Analysis (DL)	363	47	8	2	0	6	63
GSOIS Total		67	9	3	0	52	131
DL Total		281	28	9	0	592	909



GRADUATE DEGREES CONFERRED ACADEMIC YEAR 2017

Graduate School of Business and Public Policy	285
EMBA Executive Master of Business Administration	99
MBA Master of Business Administration	124
MS Contract Management	6
MS Management	35
MS Program Management	21
Graduate School of Engineering and Applied Sciences	408
EAAC - ENGINEERING ACOUSTICS ACADEMIC COMMITTEE	10
M Engineering Acoustics	4
MS Engineering Acoustics	6
ECE - ELECTRICAL AND COMPUTER ENGINEERING	84
MEng Electrical Engineering	47
MS Electrical Engineering	29
MS Engineering Science (Electrical Engineering)	4
PhD Electrical Engineering	4
MA - APPLIED MATHEMATICS	12
MS Applied Mathematics	11
PhD Applied Mathematics	1
MAE - MECHANICAL AND AEROSPACE ENGINEERING	47
MS Astronautical Engineering	4
MS Engineering Science (Mechanical Engineering)	5
MS Mechanical Engineering	36
PhD Astronautical Engineering	1
PhD Mechanical Engineering	1
MR - METEOROLOGY	18
MS Meteorology	1
MS Meteorology and Physical Oceanography	16
PhD Meteorology	1
OC - OCEANOGRAPHY	6
MS Physical Oceanography	4
PhD Physical Oceanography	2
PH - PHYSICS	25
MS Applied Physics	19
MS Physics	4
PhD Applied Physics	1
PhD Engineering Acoustics	1
SE - SYSTEMS ENGINEERING	195
MS Engineering Systems	24
MS Product Development	1
MS Systems Engineering	157
MS Systems Engineering Management	13
SP - SPACE SYSTEMS ACADEMIC GROUP	7
MS Space Systems Operations	7
PROVOST OVERSIGHT (OTHER)	4
MS Systems Engineering Analysis	4
Graduate School of Operational and Information Sciences	294
CS - COMPUTER SCIENCE	45
MS Computer Science	31
MS Modeling, Virtual Environments and Simulation	8
MS Software Engineering	1
PhD Computer Science	2
PhD Modeling, Virtual Environments and Simulation	3
DA - DEFENSE ANALYSIS	73
MS Defense Analysis	1
MS Defense Analysis (Astronautics)	1
MS Defense Analysis (Irregular Warfare)	47
MS Defense Analysis (National Security Affairs)	4
MS Defense Analysis (Operations Analysis)	1
MS Defense Analysis (Terrorist Operations & Financing)	3
MS Information Operations	1

GRADUATE DEGREES CONFERRED ACADEMIC YEAR 2017 (CONTINUED)

MS Information Strategy and Political Warfare	15
IS - INFORMATION SCIENCES	59
MS Applied Cyber Operations	5
MS Cyber Systems and Operations	14
MS Information Technology Management	15
MS Information Warfare Systems Engineering	8
MS Network Operations and Technology	11
MS Remote Sensing Intelligence	1
MS Sys Technology (Command, Control & Communications)	2
PhD Information Sciences	3
OR - OPERATIONS RESEARCH	117
M Cost Estimating and Analysis	23
M Human Systems Integration	10
M Systems Analysis	31
MS Applied Science (Operations Research)	3
MS Human Systems Integration	1
MS Operations Research	49
School of International Graduate Studies	206
NSA - NATIONAL SECURITY AFFAIRS	206
MA Security Studies (Civil-Military Relations)	3
MA Security Studies (Combating Terrorism: Policy and Strategy)	12
MA Security Studies (Europe and Eurasia)	18
MA Security Studies (Far East, SE Asia, the Pacific)	42
MA Security Studies (Homeland Security and Defense)	81
MA Security Studies (Middle East, South Asia, Sub-Saharan Africa)	34
MA Security Studies (Strategic Studies)	5
MA Security Studies (Western Hemisphere)	11
NPS TOTAL	1193



EXECUTIVE EDUCATION & PROFESSIONAL DEVELOPMENT

NPS EXECUTIVE EDUCATION

The Naval Postgraduate School (NPS) has strong executive education and professional development (EE/PD) programs that extend the reach of its graduate programs to mid- or senior-grade professionals who are unable to take the time out of their careers to attend degree programs, or who need targeted information at their locations on their time schedules. In addition to degree and certificate courses offered for credit, Schools, Centers, Departments, Institutes and other organizations of NPS provide executive education, numerous short courses, seminars, and conferences to meet specific sponsors' needs. NPS's short courses do not award academic credit, but selected short courses may award continuing education units (CEUs). Over 34,000 students took part in 547 short courses conducted by NPS in 2017. The primary organizations involved in EE/PD at NPS are:

- SCHOOL OF INTERNATIONAL GRADUATE STUDIES (SIGS - Including CCMR, CHDS, NSA)
- GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY (GSBPP - Including DRMI, HRCOE)
- GRADUATE SCHOOL OF ENGINEERING AND APPLIED SCIENCES (GSEAS)
- GRADUATE SCHOOL OF OPERATIONAL AND INFORMATION SCIENCES (GSOIS)
- CENTER FOR EXECUTIVE EDUCATION (CEE)

PROFESSIONAL DEVELOPMENT PROGRAMS (EE/PD)

The EE/PD education NPS offers fall into one of three categories:

TYPE 1 – Courses with closed enrollment. Student pre-registration occurs in advance of the course. (Students are eligible for CEUs.)

TYPE 2 – Courses with open enrollment. Student enrollment occurs at the start of the course. (Students are eligible for award of CEUs.)

2017 QUICK FACTS:

STUDENT ENROLLMENT

There have been increases in EE/PD students and courses conducted overall each year since 2015, with attendance in 2017 up over 25%.

EE/PD FUNDING

Nearly 90% of NPS' \$31mil EE/PD funding in FY17 was reimbursable.

LOCATIONS

60% of NPS' 547 EE/PD courses were conducted abroad, with another seven courses at sea and fourteen courses online or via distance learning.

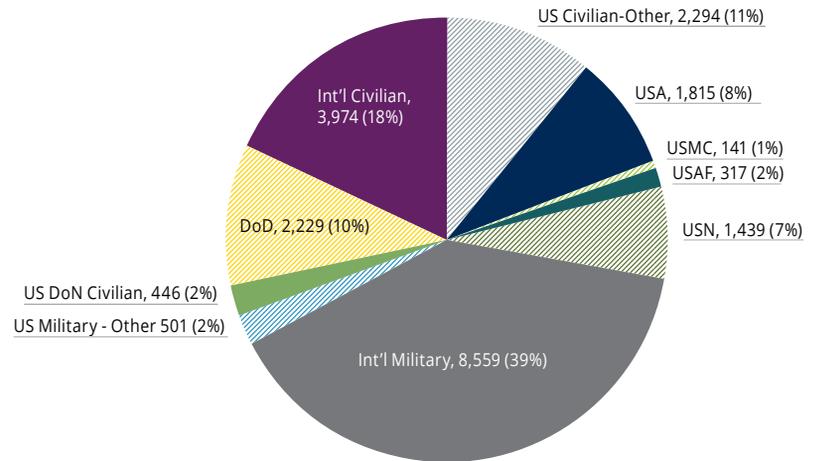
STUDENT TYPES

The largest group of EE/PD students, at nearly 40% overall, was from non-US military forces in 2017.

TOTAL STUDENTS ENROLLED

by Affiliation - 21,715 total students with known affiliation

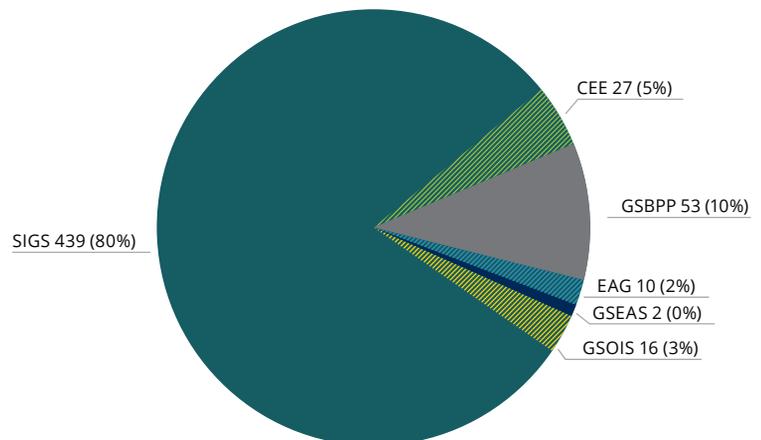
The largest group of EE/PD students, at nearly 40% overall, was from non-US military forces in 2017. 20% of EE/PD students were US military.



TOTAL COURSES

By Organization - 547 total courses

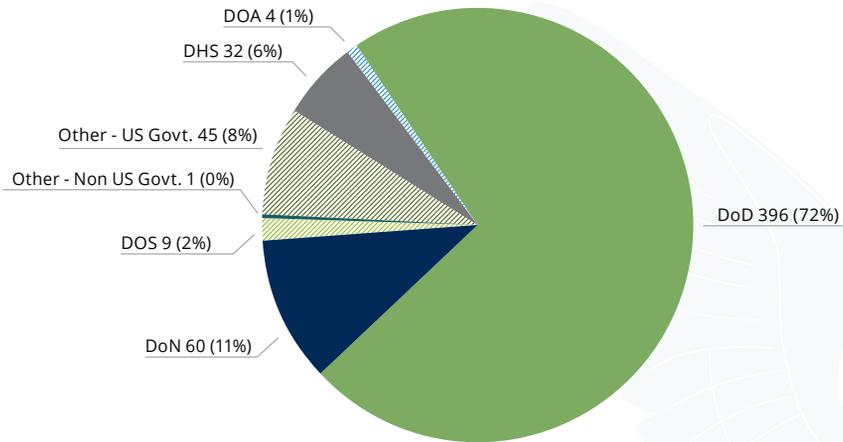
72% of NPS' EE/PD courses occur within CCMR, an organization within SIGS, with the remainder spread throughout the campus.



TOTAL COURSES EXECUTED

By Sponsor - 547 total courses

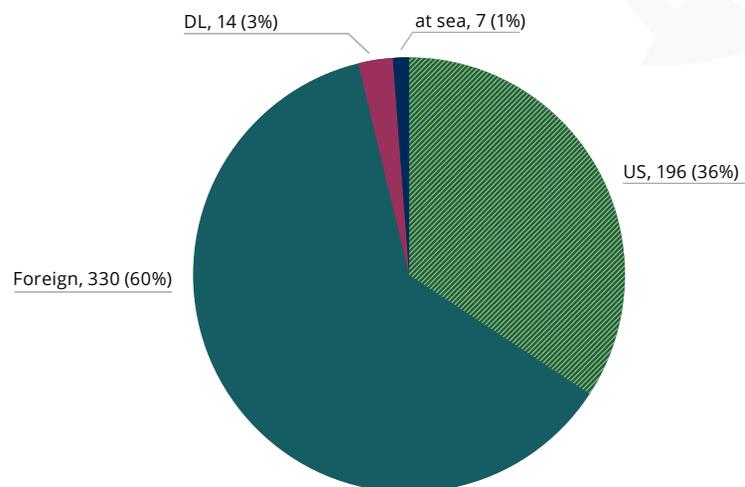
The DoD sponsored 72% of all EE/PD at NPS, with another 12% coming from the US military departments.



TOTAL COURSES EXECUTED

By location - 547 total courses

60% of NPS' 547 EE/PD students were educated abroad, with another seven courses at sea and fourteen courses online or via distance learning.



NPS FACULTY

FACULTY BY RANK

Tenure Track

RANK	GSBPP	GSEAS	GSOIS	SIGS	RESEARCH	ADMIN	TOTAL
PROFESSOR	13	48	28	7	1	1	98
ASSOCIATE PROFESSOR	24	29	28	12	0	1	94
ASSISTANT PROFESSOR	10	12	9	5	0	0	36
TOTAL	47	89	65	24	1	2	228

Non-Tenure Track

RANK	GSBPP	GSEAS	GSOIS	SIGS	RESEARCH	ADMIN	TOTAL
SENIOR LECTURER	28	13	24	21	0	4	90
LECTURER	12	12	8	22	0	13	67
PROFESSOR OF THE PRACTICE	2	8	2	0	2	0	14
RESEARCH PROFESSOR	0	7	3	0	2	1	13
RESEARCH ASSOCIATE PROFESSOR	3	11	6	1	3	0	24
RESEARCH ASSISTANT PROFESSOR	0	6	3	1	0	0	10
ADMINISTRATIVE FACULTY	1	1	1	4	1	10	18
ASSOCIATE FACULTY	9	43	51	20	18	7	148
TOTAL	55	101	98	69	26	35	384
GRAND TOTAL	102	190	163	93	27	37	612

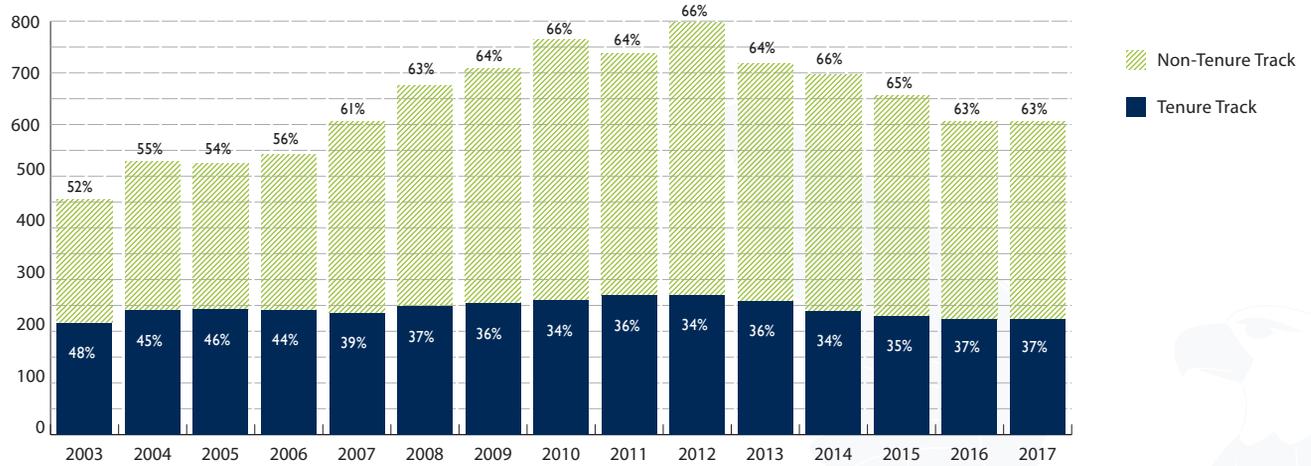
Graduate School of Business and Public Policy (GSBPP)
 Graduate School of Engineering and Applied Sciences (GSEAS)
 Graduate School of Operational and Information Sciences (GSOIS)
 School of International Graduate Studies (SIGS)

Source: Office of Institutional Research, Reporting and Analysis (IRRA)



TENURE TRACK/NON-TENURE TRACK FACULTY

Trend since 2003



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
TENURE TRACK	216	240	242	241	236	248	254	260	269	270	259	239	230	223	228
NON-TENURE TRACK	238	288	283	301	369	428	454	504	468	527	460	457	426	382	384
TOTAL	454	528	525	542	605	676	708	764	737	797	719	696	656	605	612

Source: Office of Institutional Research, Reporting and Analysis (IRRA)

FACULTY AND STAFF 2017

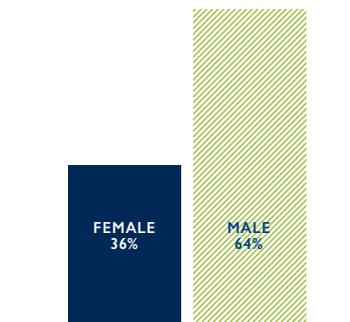
By Ethnicity

	Black/African American	American Indian/Alaskan Native	Asian	Native Hawaiian/Pacific Islander	Hispanic	White	Two or More	Total
NPS GS/WG	35	2	51	4	32	221	3	348
NPS FACULTY	3	5	43	2	21	535	1	610
TOTAL	38	7	94	6	53	756	4	958

By Gender

	FEMALE	MALE	TOTAL
NPS GS/WG	187	161	348
NPS FACULTY	155	455	610
TOTAL	342	616	958

	FEMALE	MALE	TOTAL
NPS GS/WG	54%	46%	100%
NPS FACULTY	25%	75%	100%
TOTAL	36%	64%	100%



Source: HR Link

NPS RESOURCES

INFORMATION TECHNOLOGY AND COMMUNICATIONS SERVICES

Quick Facts – NPS Systems

Networks	Provider	Site
EDU	CENIC	nps.edu
HPR	CENIC	hpr.nps.edu
MIL	DREN	nps.navy.mil
DoDNet	NPS	Monterey DoD Interconnect: DMDC, PERSESEC, DLIFLC, NRL, FNMOC, NPS
Classified Networks	Various	Various

Quick Facts – User Accounts

Type	FY16	*FY17
Resident Students	1,686	1,427
DL Students	1,556	1,623
Faculty	730	550
Staff	794	1,168
Contractors	272	468
Total Accounts	5,038	5,236

Quick Facts – Education Technologies

Description	FY16	FY17
Learning Resource Center application	274	274
Video Bridge Ports	80	80
ISDN Channels available to Video Bridge	0	0
ISDN Gateway Channels	253	253
VTC Equipped Spaces	36	57
VTC Meeting Rooms	14	18
VTE Specialized Classrooms & Studios	24	39
Multimedia presentation systems	130	130
Class hours recorded & streamed via the Internet	6,416	6,302
Participant hours attended via web-conferencing system (beginning FY14)	104,211	106,641
Logins to the learning management system (not distinct users)	1,013,306	1,037,324
Sites (Courses and Projects) hosted on the learning management system	10,787	11,956

Source: Information Technology and Communications Services
 *Data source changed to student information system

INFORMATION TECHNOLOGY AND COMMUNICATIONS SERVICES

High Performance Computing (HPC)

Description	FY16	FY17
HPC supercomputer processors	4,698	5,166
HPC supercomputer users	327	180
HPC disk space	3.2 PB	3.2PB

University Education Partnerships Corporation for Education Network initiatives in California (CENIC)

State research and education network (CalREN) links University of California campuses and system, California State University campuses and system, University of Southern California, Cal Tech, Stanford University and the Naval Postgraduate School, as well as providing connectivity to other national high-speed networks such as LambdaRail and Internet2.

Defense Research Engineering network (DREN)

DOD's recognized research and engineering network. Robust, high-capacity, low-latency nation-wide network that provides connectivity between and among the HPCMP's geographically dispersed high performance computing (HPC) user sites, HPC Centers, and other networks.

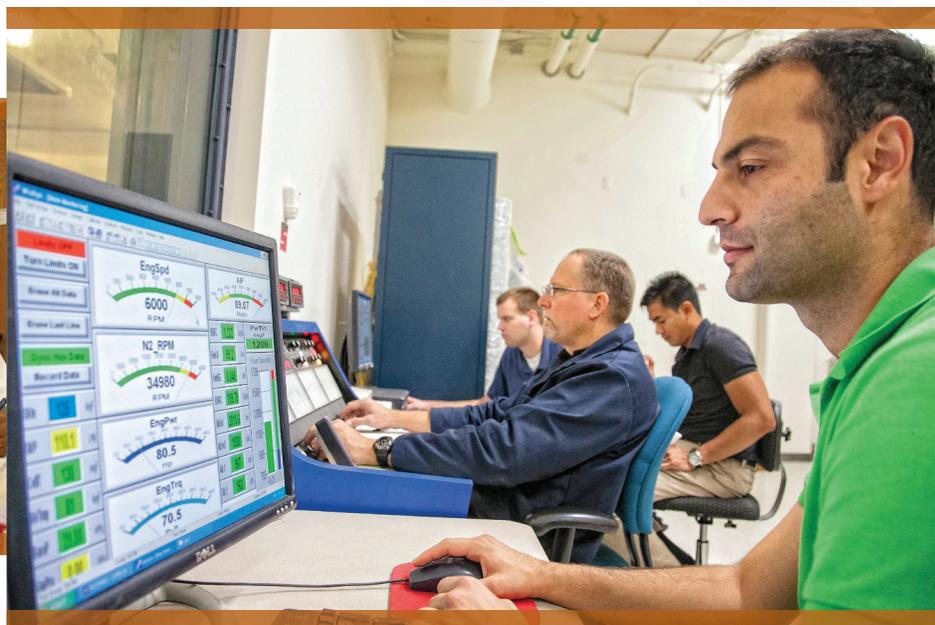
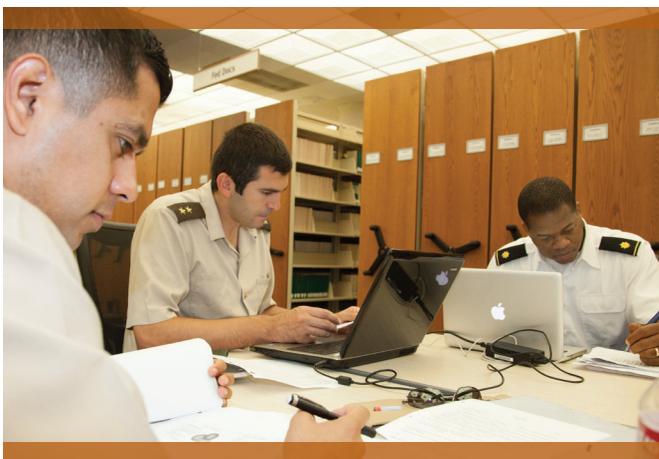
Monterey Peninsula Department of Defense Net

Regional DoD consortium with physical infrastructure linking Fleet Numerical Meteorology and Oceanography Center (FNMOOC), Defense Manpower Data Center (DMDC), Naval Postgraduate School (NPS), Naval Research Lab, and Defense Language Institute – Foreign Language Center (DLI-FLC).

University and Defense Partnership Navy Higher Education IT Consortium

Naval Postgraduate School, Naval War College, and Naval Academy CIO's working to develop higher education-based collaborations to maximize effectiveness of technology use at each of the three institutions.

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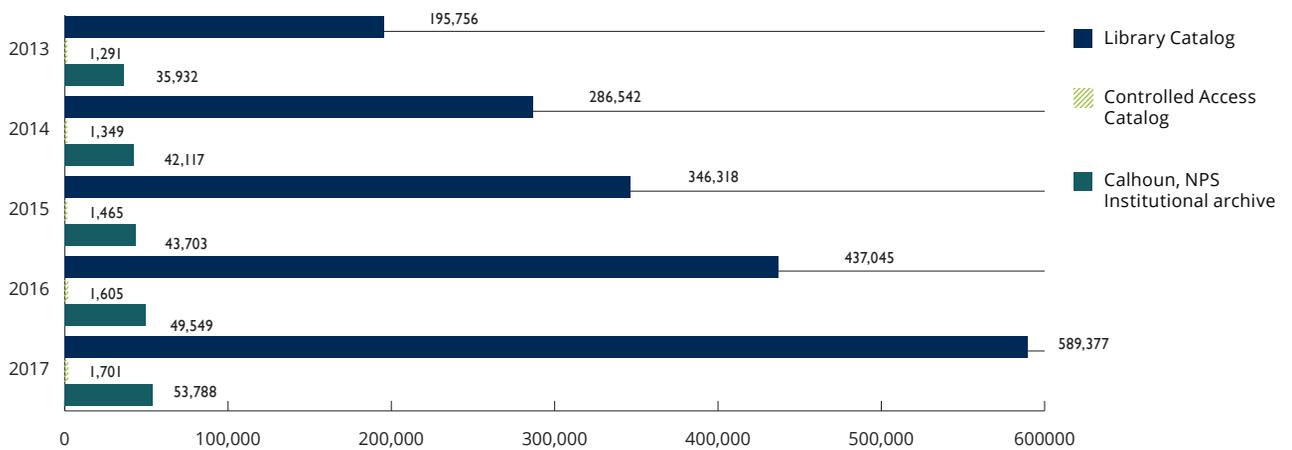
Source: Information Technology and Communications Services

DUDLEY KNOX LIBRARY

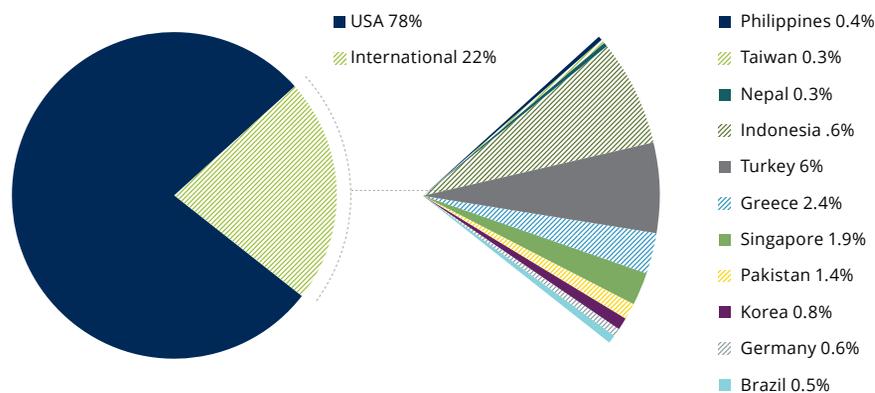
Quick Facts

NUMBER	DESCRIPTION
25.75	Library staff FTE
78	Average weekly hours (Sunday-Saturday); extended hours during finals weeks
589,377	eResources available (books, journals, reports & more)
1,701	eResources available in Restricted Collection
53,788	Titles in NPS Archive: Calhoun
281,393	On-site Library visits
842	Average daily library visits (on-site)
4,855	Average daily library visits (virtual) *Data source changed to student information system
24,051.75	Hours students used collaborative study spaces
2,501	Students receiving library instruction
138	Library instruction sessions offered (face-to-face and virtual)

Number of Electronic Resources



NPS Alumni Registered for FY2017 Library Access Top Countries (N=3,530)



Source: Dudley Knox Library

ACADEMIC FACILITIES

MAC LAB (LAB)
4 Lab equipped with networked or stand-alone computers for Academic or Research use by students and faculty which contains Apple Mac Pros with a dual boot Mac OS and Windows configuration.

MULTI O/S (LAB)
2 Lab equipped with networked or stand-alone computers for Academic or Research use by students and faculty where multiple combinations of operating systems and hardware are possible.

UNIX/LINUX (LAB)
8 Lab equipped with networked or stand-alone computers for Academic or Research use by students and faculty using UNIX or LINUX operating systems.

AUDITORIUM (AUD.)
5 Large Auditorium facilities designed for Conferences and similar large group of audiences.

CONFERENCE ROOMS (CONF.)
79 Conference rooms designed for classroom and/or conference use for a small working group or audiences.

BASELINE CLASSROOMS (CR)
69 Traditional baseline classroom with multi-media projection system and instructor computer. This is the minimum baseline technology for all traditional classrooms.

GLASGOW HALL

GLASGOW EAST

GLASGOW WEST

DUDLEY KNOX LIBRARY

REED HALL

INGERSOLL HALL

WATKINS HALL

ME LECTURE HALL

ROOT HALL

HALLIGAN HALL

HERRMANN HALL

BULLARD HALL

QUAD AUDITORIUM

SPANAGEL HALL

KING HALL

LRC WINDOWS (LAB)
13 Public Learning Resource Centers. Equipped with networked computers for student use, instructor computer, networked printer. Commonly used as a computer classroom on an irregular basis.

SECURE LABS (LAB)
7 Classified Laboratories

VTE STUDIOS (VTE)
6 Video tele-education teaching studio. Enhanced version of Type 3a VTE Classroom, but without seats for local students. Used for VTE programs with only remote students. Includes large rear- screen projection system.

VTE CLASSROOMS (VTE)
3 Video tele-education classroom. Traditional style classroom augmented with videoconferencing technology, specialized video display system, instructor PC, document camera, VCR, microphones, loudspeakers, and audiovisual routing matrix.

COMPUTER-EQUIPPED CLASSROOMS (CR)
33 Baseline classroom or lab with networked PCs and AC at each student seat.

TEACHING ENHANCED ACTIVE LEARNING (CR)
2 Classroom with shared power and network connectivity at student stations, strategically placed plasma displays and ability for students to project from study stations to displays.

SECURE CLASSROOMS (CR)
12 Classified classrooms with baseline AV capabilities in SCIF and STBL.

VTC EQUIPPED CLASSROOM (VTC)
10 Traditional or computer equipped classrooms with videoconferencing capability. Not equipped for VTE. NOTE: This is an enhancement to the existing facilities and does not represent additional rooms.

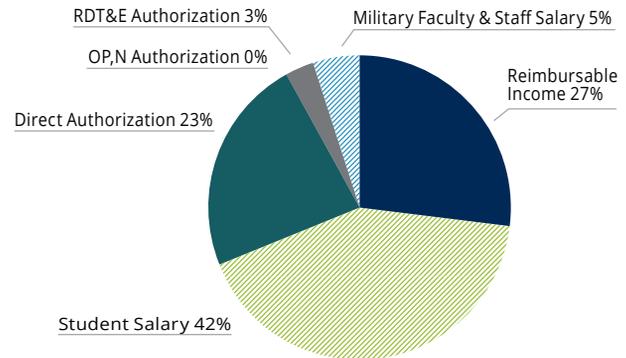
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FINANCIALS & PROGRAMS

NPS FINANCIAL OPERATIONS

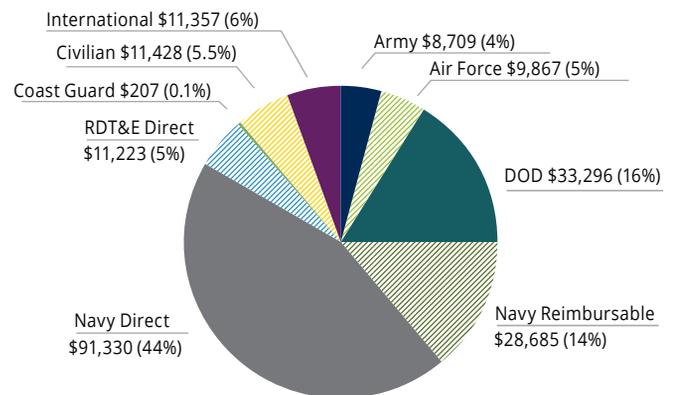
Total Operations & Military Salary - Budget by Source, FY2017

BUDGET ITEM	\$ ALLOCATED (IN MILLIONS)
Reimbursable Income	\$104
Student Salary	\$162
Direct Authorization	\$91
OP, N Authorization	\$1
RDT&E Authorization	\$11
Military Faculty & Staff Salary	\$18
TOTAL	\$387

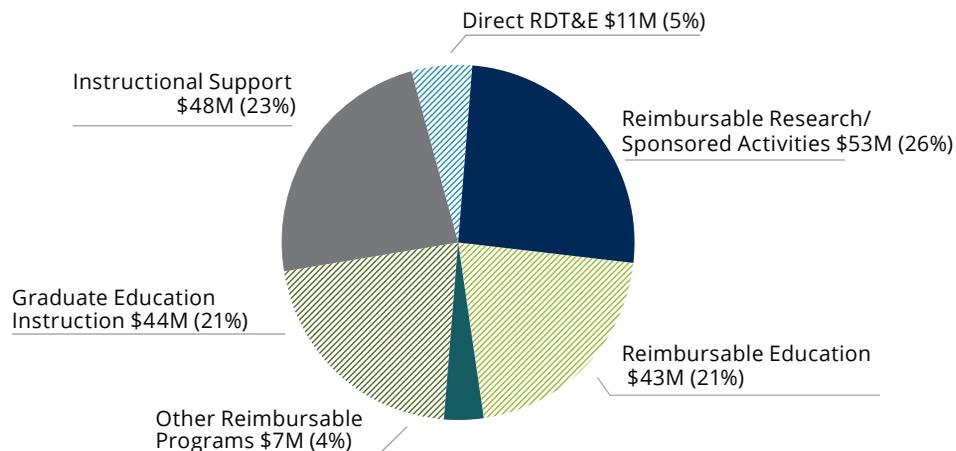


NPS FY2017 Revenue By Source - Direct and Reimbursable

SOURCE	%	\$K
Army	4%	\$8,709
Air Force	5%	\$9,867
Department of Defense	16%	\$33,296
Navy Reimbursable	14%	\$28,685
Navy Direct	44%	\$91,330
RDT&E Direct	5%	\$11,223
Coast Guard	0.1%	\$207
Civilian	5.5%	\$11,428
International	6%	\$11,357
TOTAL		\$206,102

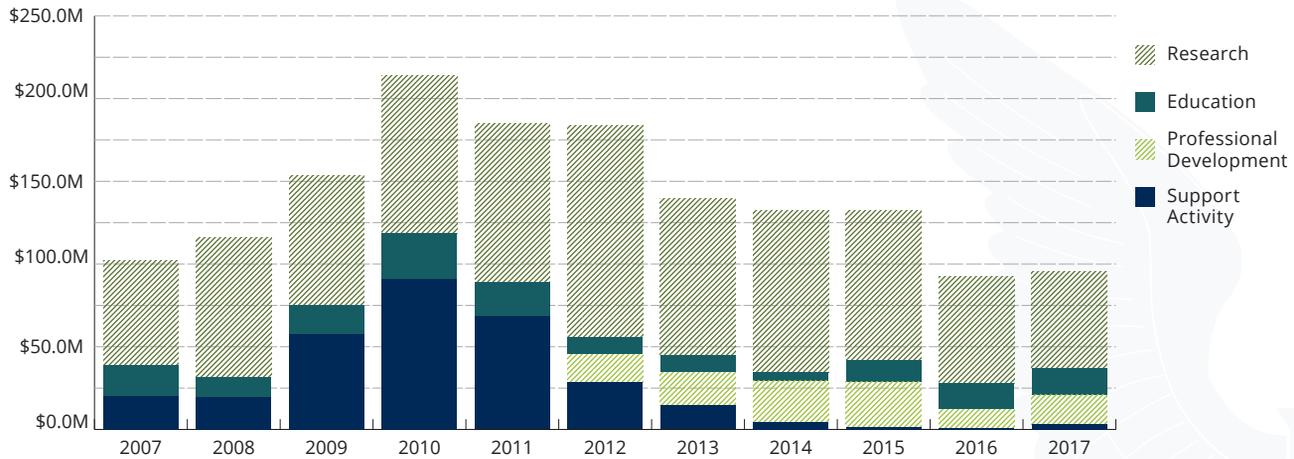


NPS FY 2017 Expenditures By Category - Direct and Reimbursable \$206 Million



NPS SPONSORED PROGRAM FUNDING

Sponsored Program Funding Execution
By Product Line (In Millions of Dollars) - Trends since FY2007



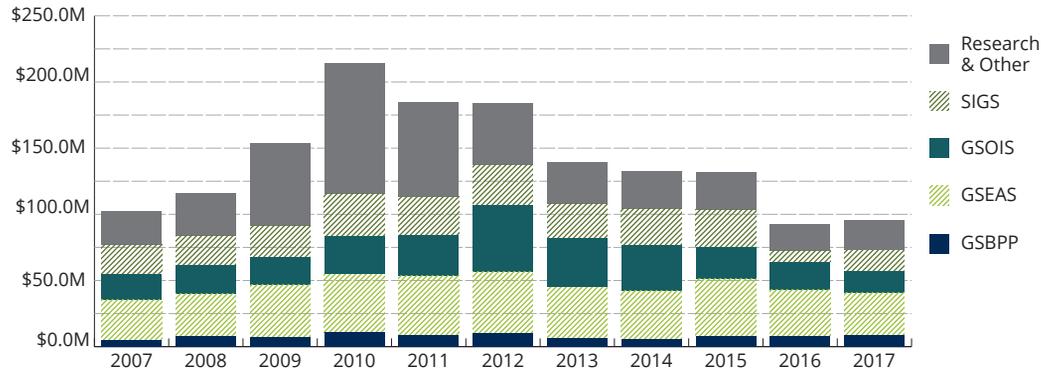
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Support Activity	\$20.3	\$19.6	\$57.6	\$91.2	\$68.3	\$28.4	\$14.5	\$4.7	\$1.4	\$85.4	\$3.3
Professional Development*	-	-	-	-	-	\$17.2	\$20.1	\$24.9	\$27.6	\$11.5	\$17.6
Education	\$18.3	\$12.0	\$17.3	\$27.4	\$20.6	\$9.9	\$10.2	\$4.9	\$13.2	\$15.4	\$15.8
Research	\$63.8	\$84.5	\$78.6	\$95.4	\$95.9	\$128.3	\$95.1	\$98.0	\$89.9	\$64.9	\$58.8
Total	\$102.4	\$116.1	\$153.5	\$214.1	\$184.7	\$183.8	\$139.8	\$132.5	\$132.1	\$92.6	\$95.5

*Note: Professional Development has partial EE/PD expenditures from CCMR and DRMI
Source: Research Sponsored Programs Office (RSPO)



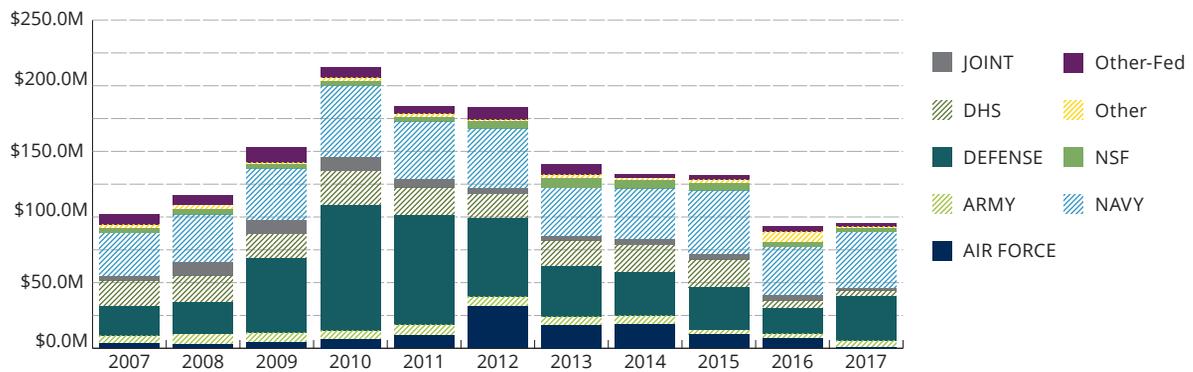
NPS FINANCIAL OPERATIONS

Sponsored program Funding Execution By Division (In Millions of Dollars) - Trends since FY2007



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
GSBPP	\$4.8	\$7.9	\$7.5	\$10.7	\$9.0	\$10.4	\$6.5	\$5.7	\$7.7	\$8.3	\$8.7
GSEAS	\$30.7	\$32.1	\$39.2	\$44.1	\$44.9	\$46.7	\$38.3	\$36.8	\$43.5	\$34.7	\$32.4
GSOIS	\$19.5	\$21.4	\$21.1	\$28.2	\$30.6	\$50.0	\$37.0	\$34.3	\$23.6	\$21.0	\$16.1
SIGS	\$22.0	\$22.7	\$23.6	\$32.7	\$28.7	\$30.2	\$26.3	\$27.3	\$28.9	\$8.7	\$15.7
Research & Other	\$25.4	\$31.9	\$62.1	\$98.4	\$71.5	\$46.5	\$31.7	\$28.4	\$28.3	\$19.8	\$22.6
Total	\$102.4	\$116.1	\$153.5	\$214.1	\$184.7	\$183.8	\$139.8	\$132.5	\$132.1	\$92.6	\$95.5

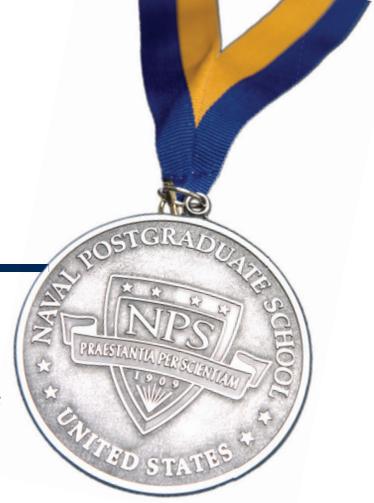
Sponsored program Funding Execution By Sponsor (In Millions of Dollars) - Trends since FY2007



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AIR FORCE	\$3.5	\$2.9	\$4.4	\$7.1	\$9.9	\$31.7	\$17.8	\$18.4	\$10.4	\$7.3	\$9.58
ARMY	\$6.3	\$7.8	\$7.4	\$6.3	\$7.9	\$7.4	\$6.1	\$6.2	\$3.5	\$3.8	\$4.9
DEFENSE	\$22.4	\$24.3	\$56.5	\$95.6	\$83.3	\$59.9	\$38.3	\$33.2	\$32.7	\$19.6	\$34.1
DHS	\$19.3	\$20.6	\$18.6	\$26.0	\$21.4	\$18.5	\$19.9	\$20.8	\$21.3	\$6.0	\$3.7
JOINT	\$3.4	\$10.2	\$10.3	\$10.5	\$6.4	\$3.9	\$3.2	\$4.0	\$3.9	\$3.9	\$1.7
NAVY	\$32.8	\$36.0	\$39.6	\$54.8	\$43.8	\$45.8	\$36.6	\$39.2	\$48.1	\$36.5	\$43.2
NSF	\$3.7	\$4.0	\$3.2	\$3.5	\$3.6	\$5.8	\$7.6	\$6.1	\$6.0	\$3.3	\$2.9
OTHER	\$3.1	\$3.2	\$1.7	\$2.5	\$2.4	\$1.6	\$2.6	\$1.8	\$2.4	\$8.3	\$1.2
OTHER-FED	\$7.9	\$7.2	\$11.8	\$7.7	\$6.0	\$9.2	\$7.8	\$2.8	\$3.8	\$3.9	\$3.0
Total	\$102.4	\$116.1	\$153.5	\$214.1	\$184.7	\$183.8	\$139.8	\$132.5	\$132.1	\$92.6	\$95.5

NPS HALL OF FAME HONOREES

The NPS Hall of Fame recognizes the accomplishments of NPS' most distinguished alumni and friends who, through the attainment of positions at the highest levels of public service, have made the greatest contributions to society,



The Honorable Jack R. Borsting

(Posthumous induction presented 27 Apr 2017)

Cmdr. Everett Alvarez, Jr. (Ret.)

(Presented 27 March 2015)

General Keith B. Alexander, USA (Ret.)

(Presented 21 June 2013)

Colonel Walt Havenstein, USMCR (Ret.)

(Presented 30 Nov 2012)

Admiral Eric T. Olson, USN (Ret.)

(Presented 30 Nov 2012)

Admiral Stanley Arthur, USN (Ret.)

(Presented 2 Dec 2011)

Dr. J. Phillip (Jack) London

(Presented 2 Dec 2011)

Vice Admiral Pat Tracey, USN (Ret.)

(Presented 3 Dec 2010)

Admiral T. Joseph Lopez, USN (Ret.)

(Presented 3 Dec 2010)

Vice Admiral Thomas J. Hughes, USN (Ret.)

(Posthumous induction presented 3 Dec 2010)

General Apichart Penkitti, Permanent Secretary for Defense, Thailand (Ret.)

(Presented 30 July 2010)

Admiral Michael Mullen, USN (Ret.)

(Presented 11 Aug 2009)

General Michael Hagee, USMC (Ret.)

(Presented 23 May 2009)

The Honorable Dan Albert, Mayor of Monterey (Ret.)

(Presented 23 Feb 2007)

BOARD OF ADVISORS TO THE PRESIDENT, NAVAL POSTGRADUATE SCHOOL

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Board Member	Title	Affiliation
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Maj. Gen. John S. Kem, USA	Commandant	U.S. Army War College

