NPS and Grad-Ed for Surface Warriors
Overview

- Grad-Ed and the SWO Career Path(s)
- NPS’s Role in Grad-Ed
- NPS Programs
  - Resident Curricula
  - Distance Learning Programs
- Other Grad-Ed Programs and Opportunities
- Examples of Current Research
- Q&A
Grad-Ed programs have traditionally been a “natural fit” for the SWO Career Path ... of all the URL communities, we give the most emphasis to grad-ed attainment during the first shore tour! But there is a choice to make ...

**Resident Programs**
- Primary Duty is grad-ed ... your job is to go to school!
- Most have an accompanying subspecialty code (P-code)
- No tuition costs (to you)
- Most require DHRB concurrent with grad-ed payback obligation
- Not Observed FITREPs
- Locations typically outside FCAs

**Non-Resident Programs**
- Primary Duty is to a billet ... grad-ed on your off time
- Some have accompanying P-code
- Options where gov’t picks up tuition require DHRB and/or grad-ed payback obligation
- Observed (competitive) FITREPs in your primary billet
- Able to stay in FCA or NCR
The Naval Postgraduate School is a mission-driven graduate-level research university.

**NPS MISSION – OPNAVINST 5450.210D**

**Programs:** “Provide 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**.”

**Research and Faculty:** “In support of the foregoing, and to **sustain academic excellence**, foster and encourage a program of **relevant and meritorious research** which both supports the needs of Navy and Department of Defense while building the intellectual capital of NPS faculty.”
NPS fulfills and manages the graduate education needs of the Department of the Navy and our officer corps.

- Master’s Degrees (and some PhD)
  - Resident and Distance Learning programs
  - Linked to Community, Subspecialty and professional education requirements
- Professional Certifications
- JPME phI (in collaboration with NWC)
- Oversees CIVINS programs: GEV, FSEP etc.
NPS is mission relevance delivered with academic rigor

- Four focused graduate schools
- Interdisciplinary research centers combine expertise from across campus
- Unique, relevant curricula
The Graduate School of Engineering and Applied Sciences (GSEAS) develops leading-edge technological advancements focused on DOD’s needs.

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*USW has multiple degree tracks, including Applied Physics, Mech E, EE, Ops Research and Physical Oceanography

Red items denote programs typically available to SWOs
The Graduate School of Operational and Information Sciences (GSOIS) meets warfighter information requirements, today and tomorrow.

**Computer Sciences**
- Computer Science
- Computer Technology
- Software Engineering
- Modeling, Virtual Environments, and Simulation (MOVES)
- Identity Management and Cyber Security

**Operations Research**
- Operations Analysis
- Cost Estimating & Analysis
- Systems Analysis
- Human Systems Integration
- Joint Operational Logistics

**Information Sciences**
- Information Systems & Operations
- Joint C4I Systems
- Information Systems & Technology
- Information Sciences
- Information Warfare
- Electronic Warfare Systems
- Network Ops & Technology

**Defense Analysis**
- Joint Information Operations
- Special Operations & Irregular Warfare

**Cyber Group**
- Cyber Systems & Operations
- Applied Cyber Operations

Red items denote programs typically available to SWOs

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The Graduate School of Business and Public Policy (GSBPP) provides unique education and research in the business of defense management.

Resident Programs (MBA)
- Acquisition and Contract Management
- Financial Management
- Information Systems Management
- Material Logistics Support Management
- System Acquisition Management
- Supply Chain Management
- Defense Systems Analysis
- Manpower Systems Analysis

Non-Resident Programs
- Contract Management
- Program Management
- Executive MBA

Professional Development Programs
- Advanced Acquisition Program
- Human Resources

Defense Resources Management Institute (DRMI)
- Defense Resources Management
- Defense Management
- Decision Making
- Multi-Criteria Decision Making
- Budget Preparation & Execution
- Risk Management
- Programming

Red items denote programs typically available to SWOs

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The **School of International Graduate Studies (SIGS)** provides an education for today’s global challenges.

### National Security Affairs/Regional Studies
- **Middle East, South Asia and Sub-Saharan Africa**
- **Europe and Eurasia**
- **Far East, Pacific, Southeast Asia**
- **Western Hemisphere**

### National Security Affairs/Security Studies
- **Strategy/Strategic Studies**
- **Civil-Military Relations**
- **Combating Terrorism: Policy and Strategy**
- **Homeland Security and Defense**

### Center for Homeland Defense & Security (CHDS)
- Executive Leaders Program / Seminars
- Fusion Center Leaders Program
- Radiological Emergency Preparedness
- University and Agency Partnership

### Center for Civil-Military Relations (CCMR)
- Civil-Military Relations
- Defense Institution Building
- Maritime Security
- Peace Operations
- International Defense Acquisition
- Combating Terrorism
- Stabilization and Reconstruction

Red items denote programs typically available to SWOs

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NPS Distance Learning in FCAs

- Executive MBA
- Master of Systems Analysis
- Mech E (for Nuclear-Trained Officers)
- Certificates:
  - ASW
  - Space Systems
  - Human Systems Integration
The EMBA goals are to provide participants with:

- A solid background in management fundamentals
- Focus on financial management and acquisition knowledge and abilities
- Analytical and critical thinking skills to make decisions under conditions of extreme uncertainty
- Opportunities for interaction so that managers can learn from each other
- Projects and activities relevant for today’s, team-based environment
- Same P-code as FM
- WELL SUITED FOR WTIs, BDOC, etc.

Requirements:

- Lt Commander (O4) and above (805) and Department Head Select, Lieutenants admitted by exception
- Civilians GS-12 and above (807), or middle-level management experience
- Undergraduate degree from an accredited four-year college or university

Delivery method:

- Hybrid
- Classroom (2 weeks in Monterey)
- Collaborate (home or at work)
Goals and key points:
– Facilitates key decisions on force requirements, weapons systems and other matters.
– Students acquire foundation skills and hands-on experience in all aspects of analytical studies.
– Same P-Code as OA
– Well suited for WTIs, BDOC Staff, ATG TLOs, NUKES!!

Requirements:
– Baccalaureate degree with GPA 2.2 or above
– Calculus with C or better
– Favorable command endorsement

Delivery methods may include:
– Asynchronous
– Collaborate Live
– Video-Tele-Education (VTE)
Resident Students
Average on Board (AY 2017): **1,432**

**NAVY 40%**
**MARTINES 16%**
**ARMY 12%**
**USCG & OTHER 1%**
**CIVILIANS 13%**

Resident Degree Student Enrollment
AY2017

**INTERNATIONAL 12%**
**CIVILIANS 13%**
**USCG & OTHER 1%**
**ARMY 12%**
**AIR FORCE 6%**
**MARINES 16%**
**NAVY 40%**

Distance Learning Degree Student Enrollment
AY2017

**MARINES 1%**
**ARMY & AIR FORCE 1%**
**NAVY 33%**
**CIVILIANS 65%**

Distance Learning Students
Average on Board (AY 2017): **909**
SWO Student Population
As of AY18Q2

Resident: 102
• 91 Post-Divo LT
• 9 “Track 4” LTJG
• 2 Bowman Scholar ENS

Dist. Learning: 55
• 36 LT
• 14 LCDR
• 5 CDR-CAPT

1110 Resident Student Quotas
AY2018 = 75

[CATEGORY NAME]

- Engineering & Applied Sciences (19)
- Operational & Info Sciences (12)
- Business & Public Policy (11)
- International Graduate Studies (28)

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With over 50,000 graduates, alumni range **from admirals to astronauts**, service chiefs to chief executives.

- Representing all U.S. military services, government agencies, defense industry leaders, and many more
- More than 5,500 int’l officers from 100+ countries
- ~30% of all U.S. Navy active-duty Flag Officers
- 26 Astronauts ... most of ANY institution
- **Notable U.S. military alumni include:**
  - ADM Mike Mullen, USN, former Chairman, Joint Chiefs of Staff
  - Gen Michael Hagee, USMC, former Commandant of the Marine Corps
  - ADM Frank Caldwell, Naval Reactors
  - ADM William McRaven, USN, and ADM Eric T. Olson, USN, former Commanders, U.S. Special Operations Command
  - GEN Keith Alexander, USA, former Director, National Security Agency
  - VADM Jan Tighe, OPNAV N2/6

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NPS’ location creates **advantages and synergies** for a dynamic learning and research environment.

- **Area academic/research institutions**
  (Stanford University, UC Berkeley, UC Santa Cruz, San Jose State, Cal State Monterey Bay/Panetta Institute, Middlebury Institute of International Studies, Monterey Bay Aquarium Research Institute, Fleet Numerical Meteorologic and Oceanographic Center, Naval Research Laboratory, Defense Language Institute)

- **Open ocean ranges** (Monterey Bay) and full access to restricted airspace (Camp Roberts)

- **Silicon Valley’s powerful technological epicenter**
  - Defense Innovation Unit – Experimental (DIuX)
  - Navy Innovation Advisory Council (NIAC)
“When I was a junior officer and mentored by officers with Masters from NPS, I was told to go but could not. Being persistent, I really worked hard to get there and when I was coming back from overseas duty ... NPS was my #1 choice. I found it to be everything people said about it ... a high quality institution, high quality people, superb education and a great place for our family. I’ve never regretted that decision.”

-- Admiral (ret.) Mike Mullen
Why NPS?

• **Specializes in DoD/DoN-tailored curricula with career application/reutilization and JPME PhI (NWC)**
  - Curricular sponsorship throughout DoN
  - Ability to work on classified projects (GENSER and SCI)

• **Understands the unique needs of mid-career military**
  - Significant % of faculty are retired .mil
  - No TA’s – more dedicated attention from Profs
  - Refresher quarters available
  - Simplified application process

• **Student body is serious about learning**
  - Incredible peer networking
  - No nonsense / student politics / protests

• **Ready access to military infrastructure**
  - Medical, housing, commissary, etc
How Do I Apply?

• **Start by obtaining your Academic Profile Code**
  - [http://my.nps.edu/web/admissions/apply1](http://my.nps.edu/web/admissions/apply1)
  - Admissions Office will review your undergraduate transcript and generate APC

• **Contact your Detailer & indicate your preferred curricula**
  - PERS-412 allocates quotas based on your preferences vs your career timing, ability to meet APC requirements and Fleet performance, generally adjudicated via the Talent Management Board process
  - Sometimes personal desires are constrained by quota availability, but ... PERS-412 has an OUTSTANDING track record for “horse-trading” quotas with other communities to get you the program you want!
  - NPS Admissions and Academic Depts determine whether a waiver and/or refresher quarter is required

• **Bottom Line:** SWO leadership wants you at NPS, and if you are performing well, we will work hard to place you there!
Other Great Opportunities (TMB)

FSEP (Fleet Scholar Education Program)
- Pursue advanced education at America’s most prestigious institutions of YOUR choosing (in CONUS). Degree must have a Navy subspecialty associated with it; up to 24 mos.

GET (Graduate Education and Teaching)
- Apply to a university in the National Capital Region, pursue a one year Master’s Degree in ANY concentration desired, and then teach that subject at USNA* for two yrs.

LEAD (Leadership Education and Development)
- Pursue a Master’s Degree from the University of Maryland or George Washington University, followed by a two year tour as a Company Officer at USNA*.

TWI (Tours with Industry)
- The opportunity to work at Amazon, Google, LinkedIn, Apple, La Quinta, Walmart, UPS, twelve months in duration.

GEV (Graduate Education Voucher)
- Voucher pays up to $20,000 per year for a maximum of two years for off-hours graduate school education, books and most fees at institution of YOUR choosing. Participants must be in a regular shore duty billet*.

PMRI (Purdue University Military Research Initiative)
- Pursue a Master's Degree or PhD (preferred). Program is 36 mos and requires Aegis experience/Dahlgren training.

MIT-WHOI (Massachusetts Institute for Technology - Woods Hole Institute)
- Obtain a Master's Degree in an Oceanography or Ocean Engineering based curricula with dual-degree from MIT and Woods Hole. Program is 24 mos and practical ASW or USV/UUV experience preferred.

Professional Initiatives Abroad
- Portsmouth, England - Esquimalt, Canada - Marin, Spain - Canberra, Australia - La Spezia, Italy - Mons, Belgium - Lisbon, Portugal - Toulon, France! Expand your maritime portfolio via Instructor duty, BMD planner, Future Ops Maritime, and Maritime Lab Experimenter assignments.

NROTC (Naval Reserve Officer Training Corps)
- Two to three year programs to lead, mentor, and train future Naval Officers. Earn a Master's Degree while on Unit staff*.

Army War College w/Tuition Assistance
- In residence JPME Phase I with an opportunity to complete a masters at KSU, KU, CMU

These programs, plus all Resident NPS curriculums, are adjudicated at the Talent Management Board … “one stop shopping”!

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Other Opportunities (non-TMB)

- **Fellowships:**
  - Federal Executive Fellowship (14/year Navywide)
  - SECDEF Corporate Fellowship (4/year)/White House (1/year)
  - Legislative Fellowship (17/year Navywide)
  - SECNAV Tour With Industry (SNTWI) (30/year Navywide)

- **Pol Mil Masters Program: (8/year Navywide)**
  - Leading Civilian Universities – Harvard, Tufts, Princeton, Johns Hopkins, others
  - Reference: NAVADMIN 185/17 of 3114372ZJUL17

- **Olmstead Scholarship Program (6/year Navywide)**
  - Foreign Universities – study abroad!
  - Reference: NAVADMIN 053/18 of 011623ZMAR18

- **Naval War College**
  - Resident or DL (Fleet Seminar, or Web)
  - Resident typically for O-4 but some opportunities for O-3 attendance
Recommendations...

- **Spend time thinking about and planning Grad Ed**
  - Talk to your Grad School Counselors:
    - PERS 412 Detailers
    - FCA Rep: CAPT(ret) Craig Turley, cwturley@nps.edu, (619) 556-3282
    - NPS SWO Chair: CAPT Chuck Good, cpgood@nps.edu, (831)656-3360
    - NPS Admissions: grad-ed@nps.edu, (831)656-3093
  - Explore www.nps.edu
  - Do Something!

- **Take charge of your career by looking ahead ...**
  - Seek the advice of your CO/XO/Dept Heads/Mentors/Friends
  - Include a quality Masters Degree ...
    - in a field of interest to you and of value to your future
  - Pay attention to NAVADMINs and PERS-41 communications
  - Make sure your record is ready for every selection board and assignment!

... and **always** talk to your Detailer!
Examples of SWO Student Research
NPS SWOs are providing analysis on a variety of Man-Train-Equip issues currently challenging Surface Force readiness

- Analysis of Depot-level maintenance availabilities, with emphasis on the Request Contract Change process
- Port Loading Model development for depot-level availability planning by Region
- Crew Workload study proceeding in parallel with NAVMAC In Port Workload efforts (data sharing)
- Ongoing Sailor Resilience study influenced recent SURFOR decisions on Force-wide implementation of circadian-based shipboard routines
NPS SWOs are providing tactical analysis and technical applications to challenging warfighting problems ... including GENSER and SCI levels

- CDS-15 Counter-SOF Infiltration TACMEMO modeling & simulation
- Counter-UCAV with High Energy Laser modeling for optimal engagement range
- Tactical modeling of SAG-v-SAG and ACTUV/MDUSV for Distributed Lethality
- Surface Force Response Plan modeling and ordnance loadout optimizer
In Nov 2017, NPS conducted the first Multi-Thread Experiment (MTX) at San Clemente Island to showcase advances in UxV control, robotics AI, and network communications

- Successful demonstration of a single network control system with multiple nodes:
  - 3x Scan Eagle UAV
  - 2x REMUS 100 UUV
  - 2x SeaFox USV
  - NSW Ground Team
  - w/COTS Quadrotors
  - USS STERETT (DDG 104)

- Planning underway for next MTX to be conducted Nov/Dec 2018

Multiple Interdependent Research Efforts ("threads")

- Human Robot Interaction (HRI)
- Control/Autonomy Initiatives
- Share Information: System State/Sensor/Network
- Wireless Mesh Networking Radios
Sponsored by USFF, CPF and CNSF, NPS has conducted a series of student-run wargames to examine the Distributed Maritime Operations and Fleet Design concepts, producing insights for further concept development.

- **Game 1: Dec 2015, South China Sea Scenario**
  - Game Designers: USAF and USA students plus Indonesian students
  - Players: USN students plus Singaporean and Japanese students

- **Game 2: Jun 2016, East Med Scenario**
  - Game Designers: USN and USMC students plus Moroccan and Turkish students
  - Players: USN and USAF students plus German and Turkish students

- **Game 3: Jun 2017, South China Sea**
  - Game Designers: USN plus Pakistani and Spanish students
  - Players: USN students

- **Game 4: Dec 2017, South China Sea**
  - Game Designers: USN SWOs
  - Players: USN students (SWO and Intel)
  - Classified game w/USFF input

- **Game 5: Jun 2018, Baltic Sea**
  - Game Designers: USMC Students