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The Office of Institutional Research and
Planning Annual Accountability Report
Accomplishments and Challenges

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THE OFFICE OF
**INSTITUTIONAL
RESEARCH**

ANNUAL ACCOUNTABILITY REPORT
ACCOMPLISHMENTS AND CHALLENGES

2011

INTRODUCTION

The purpose of the Office of Institutional Research (OIR) is to enhance and support the mission of the Naval Postgraduate School (NPS) through data collection and analyses. The head of OIR, Dr. Fran Horvath, is the Executive Director of Institutional Planning and Communications and reports to Dr. Christine Haska, Vice President of Information Resources and Chief Information Officer.

OIR senior research analyst, Ms. Ann Hamza, and research assistant Ms. Rabia Khan worked on all areas of OIR's tasks/responsibilities that resulted in the timely completion of all standard IR tasks. Beyond these efforts, IR planned, developed, and executed new and significant projects in support of NPS. IR developed, administered, analyzed, and reported on a new survey; collected and conducted extensive benchmarking data on NPS' peer institutes via data reports and external surveys; developed and expanded the IR website and SharePoint data postings; analyzed and reported data for the Educational Effectiveness Review visit for the Western Association of Schools and Colleges (WASC). The OIR developed and conducted a set of focused analyses with reports on the value of NPS to the DoN and DoD for our leadership.

MISSION

The mission of the OIR is to increase university effectiveness by providing and promoting information to enhance understanding of the institution. In fulfilling this mission, the OIR supports assessment, policy formation, and decision making through its major functions:

- Collect and preserve data, working with other campus offices to ensure data reliability and consistency;
- Analyze and interpret institutional and higher education data including benchmarking with peer institutions;
- Develop systems, methodologies and tools for effective analysis;
- Develop print and web-based informational resources with a schedule of periodical institutional analyses, surveys, and statistical and narrative reports;
- Design and produce routine and ad hoc reports for internal constituencies, federal and other external agencies;
- Disseminate analyses and reports in a timely and effective manner;
- Support assessment and accreditation processes by assisting academic areas to develop measures of educational effectiveness and improvement by providing support in research and survey design and through coordination of accreditation reporting.

SUPPORT OF THE NPS STRATEGIC PLAN

GOAL 1:

Sustain continuous improvement in the quality and relevance of our graduate education programs

GOAL 2:

Extend education to the total force and to our global partners

GOAL 3:

Broaden research in national security

GOAL 4:

Seek operational excellence in financial, business, administrative and support areas

By its mission, Institutional Research directly supports the NPS Strategic Plan in the following ways:

GOAL 1

- Maintains regular collection of benchmark data from peer institutions on a variety of academic factors including students, diversity, faculty and faculty salaries, etc.
- Maintains and charts historical data on NPS to track progress of academic programs in educational effectiveness
- Obtains benchmarking data on faculty scholarship in order to rank quality, relevance and scope of NPS research
- Measures growth of NPS' caliber of graduate level education from metrics of masters and PhD level student enrollment and degrees
- Tracks trends of graduation and time to degree rates for resident and distance learning students
- Provides data through survey research on quality and relevance of our graduate education programs based on student engagement and program assessment

GOAL 2

- Tracks trends in enrollments and degrees for resident and distance courses for all services and international students
- Provides NPS data in support of Institutional Advancement publications
- Aides in promoting NPS to potential students/host countries, to increase student enrollments via distribution of data

GOAL 3

- Tracks trends in research dollars by source, category and School
- Tracks scope of research at NPS by department; used to determine relevancy and influence to U.S. military and DoD
- Maintains benchmarking data through surveys to track scope of research at NPS by department
- Tracks number of patents achieved and Cooperative Research and Development Agreements (CRADA) established in all fields related to national security

GOAL 4

- Maintains and tracks historical data on budget expenditures, research dollars, library and IT metrics
- Provides and updates periodic reports of trends, on student satisfaction with financial, business, administrative and support areas, quarterly and annually
- Creates and maintains a strategic planning SharePoint site including repository of appropriate data

FY2011 NPS IN-HOUSE SURVEYS

IMPACT

NPS Alumni Survey

- Administered to NPS Alumni from 2009, 2006, 2001 — Reflects student opinions about their NPS experience in the areas of curriculum, faculty, classroom/lab facilities, library, and support services.

- Results identified strengths and possible areas for improvement in support of the overall NPS Mission Statement

NPS Graduating Students Survey

- Reflects student opinions about their NPS experience in the areas of curriculum, faculty, classroom/lab facilities, library, and support services.

- Results identified strengths and possible areas for improvement in support of the overall NPS Mission Statement

Masters of Science in Electrical Engineering (MSEE) Faculty Survey

- Survey reflects faculty assessment to determine whether or not students have demonstrated the ability to “conduct and report the results of a technically challenging, defense relevant independent investigation.”

- The results of the survey aided in the accreditation process of the MSEE degree program by assessing the success in achieving program outcomes using feedback of results.
- OIR successfully supported the department's goal to achieve 100% response rate as well as to automate the reporting process.

NPS Value Survey

- OIR conducted a survey on behalf of the President to collect alumni responses measuring the impact of an NPS education on operational assignments and to the longevity and success of their military career.

- The results of the survey aided NPS leadership with valuable data as part of the CNO presentation in support of NPS' value and significance to the DoN and DoD.

SURVEYS EXTERNAL TO NPS

IMPACT

National Science Foundation Research Expenditures Survey

- The required National Science Foundation Survey of R&D Expenditures for Universities and Colleges was completed and submitted for FY 2010.

- Allows NPS to compare itself to other peer institutions as a research university

Integrated Postsecondary Educational Data System (IPEDS)

- The IPEDS 2010–2011 data — Institutional Characteristics, Completions, 12-month Enrollments, HR and Fall Enrollments — were submitted to the Department of Education.

- Allows NPS to compare itself to other peer institutions as a research university

Engineering Workforce Commission (EWC) Survey of Enrollments in Engineering, Fall 2010

- The annual survey was conducted on behalf of the EC department for benchmarking engineering faculty salaries.

- Allows NPS to compare itself to other peer institutions with engineering programs.

Survey of Graduate Students and Postdocs in Science and Engineering (GSS)

- The annual survey collects student enrollment demographic data.

- Allows NPS to be compared to other institutions as a research university

American Society for Electric Engineering (ASEE) Survey of Engineering 2010 and ASEE Faculty Salary Survey 2010

- The annual survey was conducted on behalf of the EC department for benchmarking engineering faculty salaries.

- Allows NPS to be compared to other institutions as a research university

ASEE Survey of Engineering and Engineering Technology Colleges

- The annual survey collects student enrollment demographics and faculty numbers, by department.

- Allows NPS to be compared to other institutions as a research university

ACCOMPLISHMENTS OF THE OFFICE OF INSTITUTIONAL RESEARCH

One of the primary functions of the department is to collect and maintain current and critical historical data for NPS. To this end, the department issues surveys, creates data files and institutional metrics, which are evaluated, summarized into reports and distributed to campus leaders, specific requestors and/or to reporting agencies.

SURVEYS

The OIR conducts survey research, which includes creating special analyses for NPS leaders, survey design and development, administering surveys, collecting and analyzing survey results, creating historical data files, and distributing reports/results.

In FY2011, four major NPS surveys were launched, administered,

analyzed and reported quarterly, and included in an annual summary. All related files were developed to expand data fields, including personnel demographics for statistical reporting for the university as well as for federal requirements through the Integrated Postsecondary Education Data System (IPEDS).

DATA FILES

The OIR extracts pertinent data from surveys to capture and create both historical and current data files that can be tailored to fit requests and requirements by school, departments, faculty, student, and staff for academic and calendar years. Data are often further disseminated and distributed in the areas of curriculum, enrollments, degrees conferred, graduation rates, and demographics.

In FY2011:

- OIR continued with the development and improvement of high-value data, which allowed for more comprehensive, reliable and efficient data query, analysis and reporting. Primary NPS historical data files span from 2000–2011. Master data files of all FY holdings were developed and expanded with critical data fields for enrollment and degrees conferred. Additionally, a report listing all degrees conferred by FY (2000–2011) and by type of enrollment was created and posted on the IR website.
- Quarterly and annual data files were developed for aggregate reporting on the OIR website and on SharePoint.

- Documentation of recurring OIR practices of survey administration, data file development, analyses, and Python data base anomalies was performed and maintained within OIR data directories.
- OIR and Academic Administration collaborated on efforts to inform policies, procedures, and practices to ensure data integrity and appropriate access to institutional information. This was accomplished through data quality analysis from Python database extractions, and through the process of various analyses, identified issues which required modifications, additions, or enhancements to Python reporting.
- Data tables and graphs for NPS publications were completed.
- Developed and maintained active duty military officers mailing roster/data file of all military branch Flag Officers, which aided in the distribution of NPS' *In Review* magazine.

INSTITUTIONAL METRICS

Metrics are extracted from both historical and current data files and are updated on an ongoing basis. OIR identified and developed additional metrics for NPS on institutional effectiveness. IPEDS, the core postsecondary education data collection program, is updated annually, as are recurring NPS reports such as the *NPS Annual Report*, *the Fact Book*, *Factbook-at-a-Glance*, *the Fact Sheet*, and the *NPS Command Brief*. Updating of metrics supports strategic planning efforts, dashboards, benchmarking, and ad hoc requests.

In FY2011:

- The OIR established a centralized online public website which went live in April 2010. It houses significant institutional data [www.nps.edu/About/IR/index.html] and is updated regularly to ensure that users campus-wide have access to the most current data available. In 2011, more than 25 files were posted to the site, totaling 275 data files, survey research, and reports. Web tracking records 9,957 vis-

its to the site. The IR website has served as an integral tool used to disseminate information, while at the same time, highlighting university effectiveness with pertinent, current and historical data that is immediately available to online users. Since the establishment of the IR website, ad hoc requests for routine data have significantly decreased. Student enrollment demographics, graduation rates, and survey research data are routinely developed and posted online which aide in the promotion of information to enhance the understanding of NPS.

- The WASC accreditation process was supported by OIR's timely postings on its website of pertinent tables and accompanying metrics that were prepared for the Educational Effectiveness Review visit in October 2010. NPS university-wide metrics were updated for the NPS Board of Advisors' meeting in April 2011.
- Metrics for the NPS Strategic Planning Council were updated quarterly.

ANALYSES

In AY2011 OIR fulfilled *ad hoc* data requests and several analyses to various NPS leaders including the President, Executive Vice President and Provost, and Vice Presidents. The effectiveness of the IR website to provide and disseminate standard IR data, shifted *ad hoc* requests to focused requests for departmental data with specific breakouts. For instance, OIR was requested to conduct analyses which studied the impact of an NPS education on the success and longevity of the military careers of alumni. In addition, OIR accomplished several key benchmarking studies, peer institute comparisons, and delved into studies examining specific NPS populations. Alongside these studies, survey research and various focused key analyses were conducted to measure and assess the value and worth of an NPS education, in support of budgetary reviews. Analyses also served to identify measures of educational effectiveness issues used as part of program reviews. Collectively, these analyses:

- 1) Aided NPS leadership in critical decision making within specific programs and departments
- 2) Aided in efforts to effectively and strategically highlight NPS accomplishments
- 3) Compare NPS education with similar education levels focusing on impact of military career
- 4) Sought out areas within academic programs and support services that may need to be considered for improvement(s) by NPS leaders

- 5) Provided updates on various types of NPS student/faculty data from historical to present times
- 6) Provided benchmarking data to support NPS leaders in achieving accreditation goals and institutional status and ranking among peer institutes

In FY2011, OIR completed the following analyses:

Standard OIR Studies

- Graduation Rates and Time-To-Degree for NPS cohort 2008; by school, service, gender, and ethnicity
- *NPS Graduating Student Survey* Item Response Frequency Tables 2007–2011 and Trend Analysis of Student Satisfaction with NPS Support Services (9 specific areas)
- *NPS Alumni Student Survey* Item Response Frequency Tables 2008–2011 and Trend Analysis (6 specific areas)
- *MSEE Faculty Survey* (Student Outcome 3 Assessment) (Qtr and AY)
- *MSEE Student Survey* (Program Assessment) (Qtr and AY)
- Degree Program Student data tables (AOB and Peak Qtr, AY2011)
- AY2011 Faculty data for use in IPEDs and Factbook
- FTE and SFR for Faculty/Staff/Student AY2011 for use in IPEDs and Factbook

Special Studies

- *NPS Value Survey 2011 Report: Impact of NPS on Graduates and Value to the U.S. Navy*
- Higher Educational Degree Influence on Retention
- USN Active Duty Officers Pay Grade Distribution: Comparing NPS to NWC, higher ed. Degree from other university vs. bachelor's degree or less
- USN Pay-Grade Promotion
- NPS DL Student Attrition Analysis
- Degrees Conferred by Enrollment Type and Service, AY2005–2010 Qtr 3 (N153C)
- *NPS Alumni Survey* Item Response Frequency Analysis of retired vs. active duty officers with O05+ pay grade

Benchmark Studies

- NPS Privatization Costs: Tuition costs of selected NPS Peer Institutes

- Faculty data summary report on NPS Peer Institutes
- NPS Peer Institute Graduate Tuition Analysis for Engineering programs, AY2011
- Full Time Equivalent and Headcounts for Students, Faculty, Staff of NPS Peer Institutes
- NPS Peer Institutes Student, Faculty, Staff Summary Tables for Headcounts, FTE and Ratios
- Top 50 and Top 100 NPS rankings based on NSF R&D expenditures

Ad Hoc Analyses

Over 60 requests for student enrollments, historical and current degrees conferred, graduation rate and time-to-degree tables, student-faculty-ratio data, student and faculty full-time equivalent data by schools, and frequency response data were provided to NPS departments, the Department of the Navy, and other U.S. military services' organizations.

REPORTS

The OIR produces standard reports using data derived from survey research, historical data files, and metrics.

In FY2011, OIR completed the following reports:

- *NPS Alumni Survey Report AY2010*
- *NPS Alumni Survey Newsletter AY2008–2010*
- *NPS Alumni Survey Trends Reports of NPS Support Services AY2008–2010*
- *NPS Graduating Students Survey Annual Report AY2011*
- *NPS Graduating Students Survey Summary Report* (Qtr and AY)
- *NPS Graduating Students Survey Newsletter AY2007–2010*
- *NPS Graduating Students Survey Trends Reports of NPS Support Services AY2007–2011*
- *NPS Graduating Students Survey Positive Response Trends Chart Report 2007–2011*

- *NPS Factbook AY2010*
- *NPS Factbook-at-a-Glance Brochure AY2010*
- *NPS Factsheet AY2010*
- *NPS Command Brief* (4 Qtrs, 2011)
- *MSEE Faculty Report* (Student Outcome 3 Assessment) (Qtr and AY)
- *MSEE Student Report* (Program Assessment) (Qtr and AY)
- *NPS Accomplishments and Impact Report* (integrated into the new *NPS Value Book* publication)

CONFERENCES/SEMINARS/TECHNICAL ADVISORY

In FY2011, the following conferences/seminars were attended:

- WASC Academic Resources Conference, San Francisco, CA, April 2011; Dr. Fran Horvath
- WASC Substantive-Change Committee Member: participated in 10 substantive change reviews; Dr. Fran Horvath

- WASC Substantive-Change Committee Retreat, Alameda, CA, October 2011; Dr. Fran Horvath

AWARDS

In FY2011, the following awards were earned for WASC accreditation efforts:

- Navy Superior Civilian Service Award; Dr. Fran Horvath
- Navy Meritorious Civilian Service Award; Dr. Christine Haska

DATA WAREHOUSE

The Academic Information Initiative has two main projects: the NPS Data Warehouse Project and the Faculty Data Integration Project. For a second year, OIR continued efforts and collaboration between IR and Academic Affairs, to develop and obtain a viable data warehouse for an improved provision of data and analysis support for NPS and OIR. This initiative is close to being fulfilled. OIR played a key role in both the data warehouse and the faculty database meetings by helping to identify and develop key data structures and fields from the NPS Python database, as well as data fields and values for reporting federal data to the Department of Education and for NPS publications. Extensive testing on all stages of the data warehouse was conducted to ensure data integrity and appropriate access to institutional information.

Additionally, a Data Element Dictionary (DED) for the Python database was developed and is near completion, adding an integral component to facilitate Python use.

To help mitigate the challenge of the absence of a secure and consistent data warehouse for student and faculty data, OIR has captured and maintained census data for several years. In 2011, OIR continued to develop quarterly data extraction procedures from the student data system which allows for more comprehensive, reliable and efficient data query, analysis and reporting. Additionally, AY data files were combined into a historical data file for each major data areas for enrollment, degree, and survey data.

CONCLUSION

Last year OIR set and met its goal of producing a greater number of special analyses, to help measure, assess, and profile critical issues and variables regarding historical data that affect students, faculty, and NPS programs. IR developed new products with high utility to NPS leadership. Through analytical research, OIR has helped to promote information which highlights NPS' ability to produce and provide a unique and valued education. In particular, survey newsletters and key in-depth studies provided NPS leadership with concrete, viable data for policy formation and decision making.

These initiatives resulted in a heavier workload in addition to already established procedures and practices. Additional analytical support, for a permanent civilian position, is therefore essential to continue current efforts as well as expand data collection efforts, new surveys, analyses, and reporting.

GOALS OF THE OFFICE OF INSTITUTIONAL RESEARCH: FY2011

ESTABLISHED ASSIGNMENTS

- ✓ Produced OIRAAR 2011
- ✓ Published NPS 2010 Fact Book
- ✓ Provided data for 2010 Annual Report
- ✓ Administered NPS Graduating Student Survey quarterly; created standard reports by term and AY for each School and the Annual report for 2011
- ✓ Conducted MSEE Faculty Report (Student Outcome 3 Assessment) (4 Qtr and AY)
- ✓ Conducted MSEE Student Report (Program Assessment) (4 Qtr and AY)
- ✓ Administered the annual NPS Alumni Survey, and produced the AY2011 Report
- ✓ Completed the federal reporting of IPEDS for AY2010-2011 for Institutional Characteristics, Completions, 12-month Enrollment, HR, and Fall Enrollment Surveys
- ✓ Completed NSF Research Expenditures Survey Report
- ✓ Conducted ad hoc analyses
- ✓ Collected and stored quarterly student data; developed AY2011 student enrollment and degrees data file
- ✓ Updated strategic plan metrics quarterly and annually
- ✓ Updated Academic Analytics faculty peer data AY2010
- ✓ Updated all graduation rate reports (2007 and 2008 cohorts)
- Launched New Student Survey and Mid-Program Student Survey (re-assessing purpose)
- ✓ Revised New Student Survey and Mid-Program Student Survey
- ✓ Conducted analysis and reporting of NPS Capstone Evaluation Survey (survey and analysis methodology and handed off to Academic Affairs for future administration/analysis)

NEW ASSIGNMENTS

- ✓ Conducted six special NPS analyses with summary reports
- ✓ Published periodic reports to the campus on special analyses
- ✓ Provided support as needed to develop two data warehouses (student and faculty)
- ✓ Developed initial stages of Python Data Element Dictionary
- ✓ Updated and implemented OIR website to post relevant and up-to-date Graduation Rates, survey results, demographics, Command Briefs and other data pertinent to NPS
- ✓ Created historical degrees conferred table and posted on IR website AY2000-2011
- ✓ Completed Alumni Survey item response frequencies for NPS support services (Qtr and AY)
- ✓ Completed Alumni Survey Trends report for AY2008-2010
- ✓ Completed Alumni Survey Newsletter, AY2008-2010
- ✓ Completed Graduating Students Survey item response frequencies for NPS support services (Qtr and AY)
- ✓ Completed Graduating Students Survey Trends report for AY2007-2010
- ✓ Completed Graduating Students Survey Newsletter, AY2007-2010
- ✓ Completed four additional external surveys with 2010 data (ASEE Survey of Engineering Colleges, ASEE Faculty Salary Survey, Engineering Workforce Commission and Survey of Graduate Students and Postdocs in Science and Engineering)
- ✓ Provided ongoing survey research and survey software advise/support to EC department associate chairman on student program and thesis/capstone assessment surveys

GOALS OF THE OFFICE OF INSTITUTIONAL RESEARCH: FY2012

- Publish *NPS Fact Book 2012* and *Factbook-at-a-Glance 2012*
- Provide data for the *2012 Annual Report*
- Administer the NPS Graduating Student Survey quarterly; create standard reports by term for each School and Annual Report for 2012
- Develop and produce the Graduating Students Survey item response frequencies for NPS support services (Qtr and AY)
- Update Graduating Students Survey Trends report for AY2007–2012
- Develop and produce the Graduating Students Survey Newsletter AY2007–2012
- Conduct MSEE surveys and reports
- Conduct and report results of the NPS Alumni Survey
- Launch *New Student Survey* and *Mid-Program Student Survey* (re-assessing purpose)
- Update Alumni Survey Trends report for AY2008–2012
- Develop and produce Alumni Survey Newsletter AY2008–2011
- Complete all external surveys: IPEDS, NSF, ASEE surveys, etc.
- Collect and store quarterly student data
- Update strategic plan metrics annually
- Update Academic Analytics peer data
- Update all graduation rate reports
- Update OIR website to post relevant and up-to-date Graduation Rates, survey results, demographics, Command Briefs and other data pertinent to NPS
- Update degrees conferred by AY and type of enrollment table, post on IR website
- Publish Python Data Element Dictionary document
- Increase awareness of IR and its products
- Publish periodic reports to the campus on special analyses
- Conduct *ad hoc* analyses
- Provide support as needed to develop a data warehouse