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Naval Postgraduate School, Wayne E. Meyer Institute of Systems Engineering: Opportunities for Continuing Learning and Research

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Naval Postgraduate School







Wayne E. Meyer Institute of Systems Engineering







Opportunities for Continuing Learning and Research

Professor Charles N. Calvano Associate Director for Education*

*Moving to new position; succeeded by Dr. Dave Olwell (831) 636 3583; dholwell@nps.navy.mil

NPS Aligned for Relevance and Excellence

Institutes ensure that the academic tools learned in the Schools are applied to military challenges.



Graduate Schools provide the academic structure needed by students to cope with future challenges

State of the Institute: Current Education Programs and Student Population

On-Campus

- Systems Engineering and Analysis (SEA)
 - □ SEA-5 (20, including 7 IGEPS)
 - □ SEA-6 (9, including 1 CPT, USA)
 - □ SEA-7 (20, including 1 MAJ, USA and 4 INTL)
- Off-Site/Distance Learning
 - MS in Systems Engineering (118)
 - Systems Engineering Management (22)
 - SEA DL Certificate Program (17 in San Diego)

Campus-Wide Integrated Projects



NPS Student/Faculty Project

Campus-Wide Integrated Projects



NPS Student/Faculty Project

Value of Integrated Studies at NPS

- Large numbers of students exposed to open-ended, demanding analytical and design studies
- Faculty/student teams combine strengths of both
- Possible to produce results of interest to Navy/DOD
 - Insights
 - Identification of trends and sensitivities

How Do We Typically Attack Task?

<u>Top Down Analysis</u> (Integral of Capabilities Required)

Functional Flow Analysis Integrated Future CONOPS Joint Campaign Analysis

Integration (Identification of "gaps" and opportunities)

Conceptual Architecture Dynamic System Model Analytical Studies

Bottom Up Analysis (Integral of Capabilities which will be Available)

Current and Planned Architectures Current and Planned CONOPS

Who Was Involved? Expeditionary Warfare Example

<u>Aero Design Team</u>: Aircraft Design

Space Operations:

Sate

<u>TSSE Design Team</u>: Ship Design

Operations Research:

Joint Campaign

A <u>Team of Teams</u> undertaking a major <u>System of Systems</u> Study

Analysis

92 Students from 7 different curricula/programs

and 18 faculty members.....



