

New Security Challenges

Policy Issues and Analytic Approaches

Monday through Thursday,
September 27–30, 2010
9:00 a.m.–5:00 p.m.

Friday, October 1, 2010
9:00 a.m.–1:00 p.m.

Arlington, VA



PARDEE RAND GRADUATE SCHOOL

The Program

September 11th drove home just how dramatically the security challenges that confront all nations have changed since the end of the Cold War. Today's threats include not only the conventional forces of potentially hostile nation-states but also the threats of insurgency and of terrorist acts by nonstate organizations. Hanging over this strategic landscape is the increasing proliferation of weapons of mass destruction that can be delivered by a variety of means. The transformed strategic situation challenges defense planners to take a dynamic approach in the development of security policy for their nations.

Since its inception in 2000, "New Security Challenges," an intensive weeklong program offered by the Pardee RAND Graduate School, has equipped participants with an understanding of both the most critical current policy challenges and the most up-to-date analytical techniques for addressing them. The program aims to give participants both knowledge and tools that they can employ upon their return to their organizations. Past participants have been from a variety of countries and backgrounds, from defense to other national security agencies, and from private industry to academia.

Through the program, participants will

- be exposed to the latest analytic approaches to key defense challenges
- gain a better understanding of select security topics of importance to the United States and other nations
- develop a better understanding of many of the most pressing issues that confront security planners in the United States and other nations
- participate in a hands-on exercise in strategic planning, examining the demands on U.S. military capabilities in a new strategic landscape.

This year's program will be held in RAND's Washington office, located near the Pentagon City Metro station in Arlington, VA. Each session will be led by a prominent RAND researcher who has personally made a significant contribution to the topic at hand.

Topics covered will include the following:

- Theater-level campaign planning in today's environment
- High-resolution tactical models
- Gaming techniques for strategists and planners
- Applicable lessons from past stability operations
- The impact of technology on the future of U.S. and Allied Forces
- Budget challenges and implications
- Counterinsurgency in Afghanistan.

Curriculum

A Primer on Military Applications of Unmanned Aircraft Systems. We will briefly describe the history of unmanned aircraft systems (UASs) and then give an overview of current UASs, including discussion of their extensive use for intelligence, surveillance, and reconnaissance missions. We will describe potential advantages and disadvantages of UASs as compared with manned aircraft solutions for several applications, and conclude with a discussion of some promising new applications.

The Pentagon: How It Works. This course segment provides an understanding of how the Pentagon's budgeting and programming process works. It will include discussion of acquisition (OSD AT&L, services acquisition leader, program executive offices, and program managers), development of requirements (Joint Requirements Oversight Council, Joint Staff, Service chiefs, Service requirements officials), and the planning, programming, budgeting, and execution (PPBE) system (OSD Comptroller, OSD Program Analysis & Evaluation, Service comptrollers, Service chiefs, Service programmers).

America's Role in Nation-Building: From World War II to Iraq. Past U.S. roles in nation-building missions, from the post-World War II occupations of Germany and Japan through the more recent operations in Somalia, Haiti, Bosnia, and Kosovo, suggest lessons applicable to current efforts in Afghanistan and Iraq. James Dobbins will trace and discuss the difficulties encountered in both these current operations, including problems in planning, strategy, and execution, and will suggest ways to improve U.S. performance of such missions in the future.

Assessing the Performance of Advanced Wireless Networks. The U.S. military is developing advanced wireless networks to better support warfighters at the tactical edge of operations. This course will examine the analytical challenges associated with understanding the behavior and performance of advanced mobile ad hoc wireless networks (MANETs). Comparison of recent field tests and commercial network simulation models shows that current high-fidelity commercial network models do not accurately predict the performance of advanced networks. This course will describe the shortcomings of commercial tools and a new analytical approach that helps to overcome some of these issues.

Insurgency and Counterinsurgency. The U.S. military has been heavily engaged in counterinsurgency operations in recent years. RAND has recently produced a series of studies on insurgency and counterinsurgency that have contributed to the understanding of the challenges experienced in Iraq and Afghanistan. John Gordon will review some of the key findings of these studies and offer insights on how the United States can better prepare for future counterinsurgency operations.

The Impact of Technology on the Future of U.S. and Allied Forces. Rapid advances in technology, especially information technology, have had a profound influence on the way the United States and its allies plan and execute military operations. This session will examine how the character of high-intensity operations has already changed irreversibly. It will then review how DoD and NATO are looking to couple emerging technologies with new operational concepts, thus enhancing their capabilities in stabilization operations and irregular warfare.

High-Resolution Modeling and Simulation for Joint Warfare Analysis. John Matsumura will discuss the evolution of high-resolution modeling and simulation to meet the demands of joint warfare analysis and planning. In particular, he will describe the RAND Joint Warfare Simulation and Analysis (JWSA) suite of models, modeling of network-centric forces, exploring advanced technologies (e.g., robotics), and understanding the effect of complex terrain. Exemplary analysis using these modeling tools will also be presented.

An Exercise-Based Look at Future Crisis Situations. A key feature of the course will be a table-top strategic planning exercise, led by Roger Molander and Peter Wilson, that will explore how the United States may have to respond to a future international crisis where U.S. national interests are at stake. The exercise aims to identify what new and demanding capabilities will be needed—using a scenario in the relatively near future—and to elicit a menu of promising concepts from partici-

pants to meet those needs. Applying the RAND “Day After . . .” exercise methodology, groups will go through fast-moving steps in parallel with the same tasking and will compare the results of their deliberations in plenary sessions.

Budget Challenges and Implications. During any normal budget formulation period, there are always important issues that have to be considered as the Secretary of Defense and the President put finishing touches on the budgetary proposals they have received from the defense components. This year, the challenges are extraordinary because of the convergence of a series of exogenous events. The international security situation, the growing economic burdens that the nation faces, the desire to change force structure without a well-understood change in doctrine, and the extraordinary congressional interest in how these changes are expressed and implemented will require the most delicate application of Secretary Gates’s and Admiral Mullen’s skills. Charles Nemfakos’s lecture will informally explore all the avenues that these converging issues create.

Analytic Support to Intelligence in Counterinsurgencies. Operations in Iraq and Afghanistan have shown that U.S. forces need more-effective techniques and procedures to conduct counterinsurgency. It is likely that U.S. forces will face similar, irregular warfare tactics from future enemies that are unwilling to engage in conventional combat with U.S. forces. Walter Perry will examine the nature of the contemporary insurgent threat and provide insights on using operational analysis techniques to support intelligence operations in counterinsurgencies. He will examine the stages of an insurgency and discuss the kinds of intelligence that are needed at each stage. A number of techniques—pattern discernment and predictive analysis, for example—appear to show promise of being useful to intelligence analysis. Perry will also explore two closely connected methods in depth to examine the interactions between friendly and enemy forces: game theory and change detection.

Intelligence for the 21st Century. The September 11th attacks represented a sea-change for intelligence. Transnational threats, which had been secondary, became primary—a change with implications that run much deeper than often appreciated. As one analyst at the National Geospatial Intelligence Agency (NGA) put it: “We used to know what we were looking for, and those were things. Now, we don’t know what we’re looking for but know they are activities, not things.” The clutch of post-9/11 blue ribbon panels sought a reshaping of U.S. intelligence, creating a Director of National Intelligence and pressing the Federal Bureau of Investigation to re-orient its mission from law enforcement to intelligence-led prevention. This session will be a progress report on where the reshaping stands and an assessment of what should lie ahead.

Considering the Four RMA’s of the 21st Century. This presentation will explore the hypothesis that there have been four revolutions in military affairs (RMA’s) or “ways of war” during the 20th century, and that each way of war has succeeded its predecessor in a strategic and operational level of measure and countermeasure. Finally, this presentation will explore the implications of this hypothesis on current and future defense planning.

The Spatial Model of Politics. This course segment will summarize the state of the art in using the Spatial Model of Politics to analyze political struggles. The Spatial Model is a very simple but well-tested theory of how groups (nations or factions) choose positions, exert influence, and build coalitions to try to achieve favorable outcomes. The underlying logic of the model will be presented, as well as a summary of its many applications over the past few decades.

Counterinsurgency in Afghanistan. Following the initial success of U.S. and Afghan forces in overthrowing the Taliban regime in 2001, an increasingly violent insurgency began to develop. U.S. and coalition efforts in Afghanistan offer a useful opportunity to assess what works—and what does not—in counterinsurgency warfare. Rebecca Zimmerman will examine the insurgency in Afghanistan and ask three major questions: What is the nature of the insurgency in Afghanistan? How have the United States and NATO interpreted counterinsurgency? What does this mean for today’s efforts?

Faculty

The faculty is selected from the RAND professional staff. They draw on their own cutting-edge research and a wealth of practical experience in presenting their courses.

Brien Alkire's research interests include evaluation of communication, sensor, and cyber technologies and developing new concepts for employing them to meet national and tactical needs. He is a professor at the Pardee RAND Graduate School and teaches courses in optimization. Prior to joining RAND, he worked as a senior systems engineer at Northrop Grumman, where he was involved in the design of sonar systems for the Virginia-class submarine and development of software with robotics and control applications.

Irv Blickstein joined RAND in April 2001 after retiring from the Navy Department as the Assistant Deputy Chief of Naval Operations for Resources, Requirements, and Assessments. He leads research on acquisition, metrics, planning, programming, and budgeting in the RAND Acquisition and Technology Policy Center. His expertise in PPBE led to a review of Navy shipyard manning levels, Ship and Aviation cost trends, and how Goldwater-Nichols affected navy acquisition. He is currently serving as a member of the Chief of Naval Operations's Executive Panel.

James Dobbins directs RAND's International Security and Defense Policy Center. He has held State Department and White House posts, including Assistant Secretary of State for Europe, Special Assistant to the President for the Western Hemisphere, Special Adviser to the President and Secretary of State for the Balkans, and Ambassador to the European Community. He is lead author of the three-volume *The RAND History of Nation-Building* and *Occupying Iraq: A History of the Coalition Provisional Authority*.

Daniel Gonzales is a senior scientist at RAND. He is a principal investigator for projects examining command, control, and communications (C3) and intelligence issues for the U.S. Army, the Director of Defense Research and Engineering (DDR&E), the Assistant Secretary of Defense Networks and Information Integration (ASDNII), and the U.S. Navy. For the Army, he has examined the network designs for the joint tactical radio system (JTRS). For the Office of the DDR&E, he is conducting independent assessments of technical feasibility and risk issues for DoD C3 programs, including independent technical assessments of JTRS advanced networking waveforms.

John Gordon joined RAND in 1997 following a 20-year U.S. Army career. He has participated in and led numerous studies for the Office of the Secretary of Defense and the Departments of the Army and Navy and has authored or coauthored numerous RAND reports. He has led or participated in RAND research projects for the governments of the United Kingdom, Sweden, Italy, and Germany. Additionally, he has authored over 20 articles on defense topics in professional journals.

Stuart Johnson is a senior research analyst at RAND, where he directs projects on adapting U.S. military forces to emerging challenges and force planning and programming. He has been the Chair for Force Transformation Studies at the National Defense University, Senior Scientist at the Naval War College, and Director of Systems Analysis at NATO Headquarters. His publications have focused on leveraging information to dominate the battlespace.

John Matsumura is a senior engineer at RAND who has worked on a wide range of defense-related research, with particular emphasis on understanding how advanced concepts and technologies can improve military capability. During his more than 20 years at RAND, his research has ranged from providing detailed assessments of system performance to shaping acquisition decisions and defense policy.

Roger Molander is a senior research scientist at RAND, where he co-leads the development of RAND's "Day After . . ." strategic planning exercise methodology. His recent work has focused on the nuclear proliferation problem and long-term nuclear futures, strategic cyberwarfare, alternative Middle East strategies, homeland security issues (including hurricane preparedness and all aspects of WMD terrorism preparedness), and DoD continuity of operations in the aftermath of catastrophic

incidents. Molander was a member of the National Security Council staff at the White House from 1974 through 1981 under Presidents Nixon, Ford, and Carter, where his principal area of responsibility was strategic nuclear arms control and nuclear strategy.

Charles Nemfakos is a senior fellow at RAND. He provides research, strategically oriented analyses, support, and advice to a broad variety of RAND clients. Previously, he was an executive with Lockheed Martin Corporation, Naval Electronics and Surveillance Systems. During his federal service, he served as a budget analyst and as a planner in the Office of the Secretary of Defense and the Department of the Navy. He has been the recipient of multiple Distinguished Service Medals and has been recognized by three U.S. presidents with four presidential rank awards.

Walter Perry has most recently led two projects on Operation Iraqi Freedom: RAND's support to the Joint IED Defeat Organization; and the congressionally mandated analysis of alternative drawdown schedules for the exit of U.S. troops from Iraq. Prior to these studies, Perry led studies documenting the Kosovo conflict, operations in Afghanistan, and combat operations in Iraq. He has developed several metrics of the impact of command and control on military operations. Perry joined RAND in 1984. He has taught at The George Washington University, George Mason University, and West Point.

Jessie Riposo joined RAND in 2003 and has worked on a variety of research projects for the U.S. Navy and for various offices within the Office of the Secretary of Defense, the UK Ministry of Defence, and the Australian Department of Defence. The focus of her research has been industrial policy and defense acquisition. She is currently an operations research analyst at RAND.

Gregory Treverton is director of RAND's Center for Global Risk and Security. Earlier, he directed RAND's Intelligence Policy Center and its International Security and Defense Policy Center and was associate dean of the Pardee RAND Graduate School. He has served in government for the first Senate Select Committee on Intelligence, handling Europe for the National Security Council and, most recently, as vice chair of the National Intelligence Council, overseeing the writing of America's National Intelligence Estimates (NIEs). His latest books are *Intelligence for an Era of Terror*, *Film Piracy*, *Organized Crime*, and *Terrorism* (with others); and *Reorganizing U.S. Domestic Intelligence: Assessing the Options*.

Peter Wilson is a senior political scientist who specializes in defense policy and planning research. He has conducted numerous studies for the Army, Navy, Marine Corps, Air Force, the Office of the Secretary of Defense, and various foreign clients. He has also coauthored a variety of RAND studies and has published articles on a broad range of national security issues.

Ben Wise is a senior engineer at RAND. His recent work includes projects modeling the interaction of tactics and networks, system engineering, and tools for budget planning. Since 1985, he has been working in the field of modeling, simulation, and analysis for defense, intelligence, and business process applications. This includes designing simulation systems for decisionmakers in acquisition, operational planning, and tactics development; applying techniques for analysis and correlation of intelligence data; and models of planning in competitive and uncertain environments.

Rebecca Zimmerman specializes in terrorism and insurgency in Asia. Her current research focuses on counterinsurgency operations in Afghanistan, where she has served on several occasions in support of RAND work. Prior to her arrival at RAND, she conducted field research on the Moro Islamic Liberation Front in the southern Philippines and on popular attitudes toward radical Islam in Indonesia. She is proficient in Bahasa Indonesian and several other languages.

Pardee RAND Graduate School

The Pardee RAND Graduate School, established in 1970, has evolved into a model for graduate programs in policy analysis. Students and faculty examine a wide range of issues, including national security studies. Graduates typically go on to careers in government or private industry, applying their research and strategic planning skills to such areas as defense, health, and education. Through courses and workshops, the school and its parent organization, the RAND Corporation, are at the forefront of defense-related policy analysis. The Pardee RAND Graduate School is a founding member of the Association for Public Policy Analysis and Management.

About the Program

The course is offered at RAND's Washington office at Pentagon City, Arlington, VA. Sessions will be held from 9:00 to 5:00 with an hour lunch break on Monday through Thursday, September 27–30, and from 9:00 to 1:00 on Friday, October 1, 2010. RAND faculty will be available for informal discussion one-half hour before and after each session. Light refreshments will be provided. Social hours are planned for Monday and Wednesday evenings.

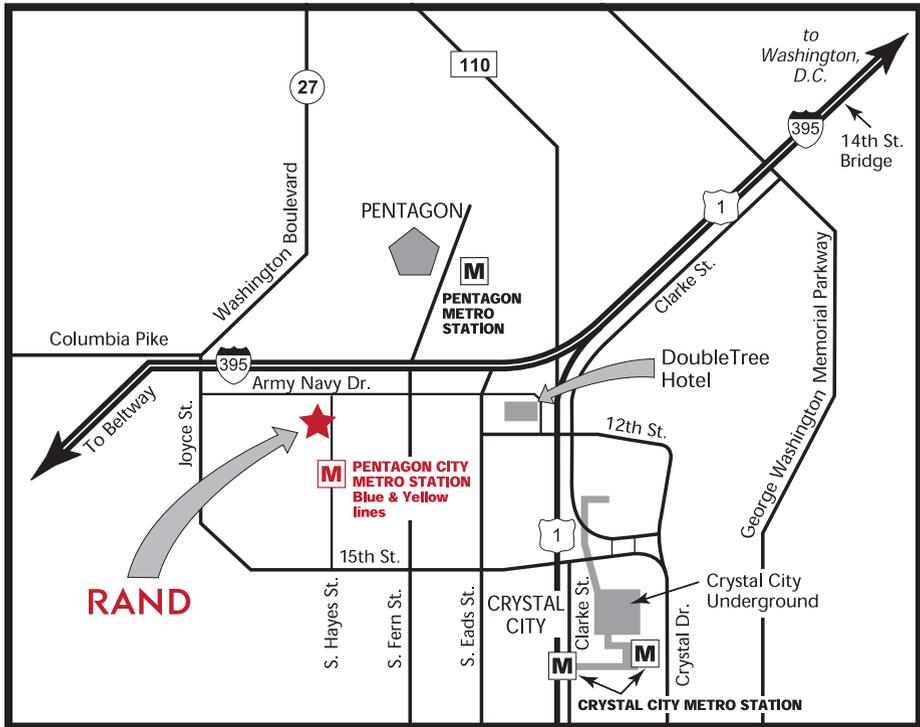
The fee for this course is \$2,500. All materials are provided. Graduate students can take the course (space available) for one credit at a cost of \$1,100 with proof of full-time graduate student status. Payment is due at the time of registration.

Enrollment is available via our secure website:
www.rand.org/about/edu_op/rand.course

or by contacting: **Jennifer Miller**
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What earlier participants had to say about the program:

“Excellent course. I look forward to attending future courses at RAND.”

“The exercises were engaging and provided substantive discussions of a high caliber.”

“Instructors were experts on their topics and it was wonderful learning directly from them.”

“Presentations were challenging and stimulated debate and discussion.”

“Well-balanced mix of personnel and perspectives in the class.”

“Overall, a wonderful impression. The course was well worth the time.”