

THE GEORGE WASHINGTON UNIVERSITY
IAFF/HONR 720.80

**“Forward Engagement:
Study of Long-Range Developments as Factors
in Contemporary National Policy”**

David's
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Spring Semester 2004
Tuesdays, 6:10-8:00pm
Class meets: 1957 E Street, Room B14
For appointments: contact David

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Prometheus Course ID: 70180
Prometheus Password: forwardengagement

Class meets: 1/13; 1/20; 2/3; 2/10; 2/17; 2/24; 3/2; 3/9; 3/23; 3/30; 4/6; 4/13; 4/20; 4/27.

Meetings with additional guest speakers may be scheduled throughout the semester. We will notify you of these dates and attendance for these meetings is optional.

Note: All examinations, reports, and other graded work products and assignments are to be completed in conformance with The George Washington University Code of Academic Integrity.

Course Mission Statement:

The rate of major historical change appears to be accelerating, in ways that could challenge our democratic society's ability to perceive events in time to debate and decide upon appropriate responses. If so, then there is a need to combine methods of forecasting with mechanisms for policy making, to create a process that could be called "Forward Engagement." The concept of "Forward Engagement," is that early awareness and early preparation for potentially major events is preferable than awaiting their unambiguous onset.

Students will explore long-range trends and events in science, economics, defense and governance that could have a major impact on our society and on the world in general, by the time today's students reach positions of senior responsibility. Participants in this course will explore whether such events could prove particularly challenging to democratic governance. They will also analyze ways in which it would be possible, starting now, to modify policy in

the hope of favorably influencing the course and impact of these developments. Finally, they will consider ways to improve the capacity of the government of the United States to perceive and respond to the accelerating rush of future events. Emphasis will be on students reasoning to form personal and group conclusions.

Methodology:

Readings, lectures, guest speakers, class discussion, individual and group work.

Output:

Three individual papers; Four group papers; and one final collective class group paper and briefing. Briefing to be delivered to an invited guest who has held senior policy-level responsibility in government.

Course Structure:

The course is broken into four phases:

- *Phase I:* Orientation; Read-in time; Contact with issue area and future-minded experts; Exposure to forecasting concepts.
- *Phase II:* Identifying Future Contingencies of Interest (FCI).
- *Phase III:* Identifying policy issues relating to FCIs. Students will divide into four groups and address four issue areas:
 - Group A: Science & Technology
 - Group B: Economics
 - Group C: Security
 - Group D: Governance
- *Phase IV:* Integration; Focus on methods for policy/forecasting integration and preparation of final paper and presentation.

Course Roadmap:

SESSION #1 – January 13:
(semester week #1)

Course Introduction. Organization of the class into four working groups: science & technology; economics; security; and governance. Discussion of objectives of the course. General presentation on forecasting by Prof. Fuerth.

In the period following this meeting (from January 14-20): Students read into the Welcome Kit and course materials. Students begin to make contact with outside experts (list will be provided by e-mail).

SESSION #2 – January 20:
(semester week #2)

John Meagher

Presentation on Prediction and Projection by Prof. Fuerth and possible guest speaker.

In the two-week period following this meeting (from January 21-February 3): Students prepare individual papers on policy applications, present or future, of Prediction and Projection (see table below). Students will review papers from Prof. Fuerth’s “Long-term Forecasting” Skills course, particularly those papers that address topics related to their own topics for the Prediction and Projection papers. Students will also schedule individual meetings with Prof. Fuerth during this period to discuss their papers. **Papers are to be e-mailed to esialsf@gwu.edu by noon on January 30.**

	SCIENCE & TECHNOLOGY	ECONOMICS	SECURITY	GOVERNANCE
PREDICTION	P F	P F	P F	P F
PROJECTION	P F	P F	P F	P F

NO CLASS – January 27

*Friday June 30
papers*

SESSION #3 – February 3:
(semester week #4)

*Doc Wurzel - powerpoint
AN Lecture Notes*

Class discussion of student papers on Prediction and Projection. Presentation on Delphi method and Scenario by Prof. Fuerth and possible guest speaker.

In the period following this meeting (from February 4-9): Students prepare individual papers on policy applications, present or future, of Delphi method and Scenarios. Students will again review papers from Prof. Fuerth’s “Long-term Forecasting” Skills course, particularly those papers that address topics related to their own topics for the Delphi method and Scenario papers. Students who haven’t met with Prof Fuerth yet will schedule individual meetings with him during this period to discuss their papers. **Papers are to be e-mailed to esialsf@gwu.edu by noon on February 9.**

	SCIENCE & TECHNOLOGY	ECONOMICS	SECURITY	GOVERNANCE
DELPHI METHOD	P F	P F	P F	P F
SCENARIOS	P F	P F	P F	P F

SESSION #4 – February 10:
(semester week #5)

No speaker

Discuss student papers on Delphi method and Scenarios. Presentation on concept of future contingencies of interest (FCIs) by Prof. Fuerth and possible guest speaker.

In the period following this meeting (from February 11-16): By working group, students prepare individual papers on FCIs. **Each working group will e-mail their ‘packet’ of papers to esialsf@gwu.edu by noon on February 16.**

SESSION #5 – February 17:
(semester week #6)

Mitchel Waldrop

Discussion of individual papers on FCIs by Prof. Fuerth. Presentation on nodes and complexity by Prof. Fuerth and possible guest speaker.

In the period following this meeting (from February 18-23): As a class, students prepare collective group paper on FCIs, nodes, and complexity. In addition, students will condense

this paper into matrix form, and the matrix will serve as the starting point for the Session #6 discussion on nodes and complexity. **Paper and matrix are to be e-mailed to esialsf@gwu.edu by noon on February 23.**

SESSION #6 – February 24:
(semester week #7)

Discussion of
Transition of
to
Policy

~~Discussion of class' group paper and matrix on FCIs, nodes and complexity. Presentation on Group A (science & technology) and Group B (economics) policy issues drawing on FCIs by invited guest.~~

In the period following this meeting (from February 24-March 2): Students in Groups A and B prepare group papers on Group A (science & technology) and Group B (economics) policy issues. In this period, students in Group C and Group D consult with and assist students in Group A and Group B as they prepare their papers. **Papers are to be e-mailed to esialsf@gwu.edu by noon on March 1.**

SESSION #7 – March 2:
(semester week #8)

~~Discussion of student papers on Group A (science & technology) and Group B (economics) policy issues. Presentation on Group C (security) and Group D (governance) policy issues drawing on FCIs by invited guest.~~ A Sci/Tech B Econ

In the period following this meeting (from March 1-8): Students in Groups C and D prepare group papers on Group C (security) and Group D (governance) policy issues. In this period, students in Group A and Group B consult with and assist students in Group C and Group D as they prepare their papers. **Papers are to be e-mailed to esialsf@gwu.edu by noon on March 8.**

SESSION #8 – March 9:
(semester week #9)

Discussion of student papers on Group C (security) and Group D (governance) policy issues.

In the period following this meeting (from March 10-22): Students prepare papers (one paper per each of the four groups) which outline policy issues based on FCIs from the political/philosophical perspectives that are typical of our country, e.g. liberal and conservative. **Papers are to be e-mailed to esialsf@gwu.edu by noon on March 22.**

NO CLASS – March 16
(semester week #10; Spring Break is March 15-19)

SESSION #9 – March 23:

(semester week #11)

Discussion of political perspectives papers. Discussion of existing institutional mechanisms to blend forecasting and policy by Prof. Fuerth and possible guest speaker.

In the period following this meeting (from March 24-29): Students will review the papers of previous students on the subject of institutional mechanisms to blend forecasting and policy. Students should also complete reading of RAND's "Shaping the Next One Hundred Years" and the WWC's "Government Foresight."

SESSION #10 – March 30:

(semester week #12)

Discussion of potential institutional mechanisms to blend forecasting and policy. Presentation by possible guest speaker.

In the period following this meeting (from April 6-27): Students prepare papers (one paper per each of the four groups) on both existing and potential institutional mechanisms to blend forecasting and policy. These papers should include political/philosophical perspectives on such institutions. **Papers are to be e-mailed to esialsf@gwu.edu by noon on April 5.**

SESSION #11 – April 6:

(semester week #13)

Discussion of student papers on existing and potential institutional mechanisms to blend forecasting and policy.

In the period following this meeting (from April 13-20): Students begin work on final paper, executive summary, and presentation. **Draft of final group paper and presentation are to be e-mailed to esialsf@gwu.edu by noon on April 19.**

SESSION #12 – April 13:

(semester week #14)

Discussion of institutional mechanisms to blend forecasting and policy; final paper preparation; and loose ends.

In the period following this meeting (from April 13-20): Students continue work on final paper and presentation.

SESSION #13 – April 20:
(semester week #15)

Dry-run and critique of final group presentation with Prof. Fuerth.

In the period following this meeting (from April 20-27): Students complete work on final paper, executive summary and presentation. **Final paper is to be e-mailed to esialsf@gwu.edu by noon on April 26.**

SESSION #14 – April 27 (make-up class from January 27):
(semester week #16)

Final presentation by students to invited guest.

Key Assignments & Dates:

Individual papers on policy applications of Prediction and Projection - **January 30**
Individual papers on policy applications of Delphi method and Scenarios - **February 9**
Individual papers on FCIs - **February 16**
Class group paper and matrix on FCIs, nodes and complexity - **February 23**
Group A (science & technology) paper on policy issues - **March 1**
Group B (economic) paper on policy issues - **March 1**
Group C (security) paper on policy issues - **March 8**
Group D (governance) paper on policy issues - **March 8**
Group papers (A.,B, C, D) on policy issues from political/philosophical perspectives - **March 22**
Group papers (A.,B, C, D) on existing & potential institutional mechanisms - **April 5**
Draft of class group paper and presentation - **April 19**
Final class group paper and presentation - **April 26**

Readings:

- Key illustrative books and publications (see attached Reading List)
- “Welcome Kit” CD of readings to be loaned to students
- Final reports of six previous courses on “Forward Engagement”
- Papers from previous semester’s “Long-Term Forecasting” Skills course
- Suggested reading materials, as needed

READING LIST:

HONR/IAFF 720.80
"Forward Engagement:
*The Study of Long-range Developments
as Factors in Contemporary National Policy*"

Reports:

Challenges of the Global Century: Report of the Project on Globalization and National Security. *Institute for National Strategic Studies, National Defense University*, 2001.
<http://www.ndu.edu/inss/books/ChallGlobCen/GloCenCont.html>

Global Trends 2015: A Dialogue About the Future With Nongovernment Experts.
Central Intelligence Agency: National Intelligence Council, December 2000. Available at: <http://www.cia.gov/cia/publications/globaltrends2015/>

Long-Term Global Demographic Trends: Reshaping the Geopolitical Landscape, *Office of Transnational Issues, Strategic Assessments Group, Directorate of Intelligence, CIA*, July 2001. Available at: http://www.cia.gov/cia/reports/Demo_Trends_For_Web.pdf

New World Coming: American Security in the 21st Century, *The United States Commission on National Security/21st Century*, September 15, 1999.

<http://www.nssg.gov/Reports/reports.htm>

(Read sections (1) Major themes and implications and (1a) Supporting research. Look over sections (2) and (3).)

Societal Implications of Nanoscience and Nanotechnology. Mihail Roco and William Bainbridge, Editors. NSET Workshop Report. *National Science Foundation*. March 2001. Available at: <http://itri.loyola.edu/nano/NSET.Societal.Implications/>

The United States and the Third World Century: How Much Will Demographics Stress Geopolitics? *Office of Transnational Issues, Strategic Assessments Group, Directorate of Intelligence, CIA*, February 2002.

Required Books:

Edward Cornish, *Futuring: The Exploration of the Future* (Bethesda, MD: World Future Society, 2004.)

(Note: The advance uncorrected proof of the book is available on Prometheus and Blackboard.)

Freeman J. Dyson, *The Sun, The Genome, and The Internet* (New York, NY: Oxford University Press, 1999.)

Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York, NY: Picador USA, 2002.)

Howard Rheingold, *Smart Mobs: The Next Social Revolution* (Cambridge, MA: Perseus Publishing, 2003.)

Michael S. Loescher, Chris Schroeder & Charles W. Thomas, *Proteus: Insights from 2020* (The National Reconnaissance Office: The Copernicus Institute Press & Michael S. Loescher, 2000.)

Michael J. Mazarr, *Global Trends 2005: An Owner's Manual for the Next Decade* (New York, NY: Palgrave Publishing, 1999.)

John L. Petersen, *Out of the Blue: Wild Cards and Other Big Future Surprises* (Arlington, VA: The Arlington Institute, 1997.)

Robert J. Lempert, Steven Popper, and Steven C. Bankes, *Shaping the Next One Hundred Years: New Methods for Quantitative, Long-Term Policy Analysis* (RAND Pardee Center, Arlington, Virginia, 2003.) <http://www.rand.org/publications/MR/MR1626/>

David Rejeski (ed.), *Government Foresight – Myth, Dream, or Reality?* (Washington, DC: Woodrow Wilson International Center for Scholars, 2003.)
(Note: Hardcopies will be provided to students.)

Recommended Books:

Kurzweil, Ray. The Age of Spiritual Machines. New York: Penguin Group, 1999.

Broderick, Damien. The Spike. New York: Tom Doherty Associates Book, 2001

Dyson, George B. Darwin Among the Machines. 1997.

Friedman, George and Meredith. The Future of War. 1996.

Friedman, Thomas. The Lexus and the Olive Tree. 1999.

Hardt, Michael. Empire. 2000.

Huntington, Samuel P. The Clash of Civilizations and the Remaking of World Conflict. 1996.

Kaplan, Robert. The Coming Anarchy. 2000.

Kennedy, Paul. Preparing for the Twenty-First Century. 1993.

Lake, Anthony. 6 Nightmares. Boston: Little, Brown and Company, 2000.

Lomborg, Bjorn. The Skeptical Environmentalist. Cambridge, United Kingdom: Cambridge University Press, 2001.

Mazarr, Michael J. Global Trends 2005. New York: Palgrave, 1999.

Micklethwait, John. A Future Perfect: The Challenge and Hidden Promise of Globalization. New York: Crown Publishers, 2000.

Morrison, Reg. The Spirit in the Gene: Humanity's Proud Illusion and the Laws of Nature. Ithaca, NY: Cornell University Press, 1999.

Our Global Neighbourhood: The Report of the Commission on Global Governance. Oxford: Oxford University Press, 1995.

Rosecrance, Richard. The Rise of the Virtual State: Wealth and Power in the Coming Century. New York: Basic Books, 1999.

Rosen, Jeffrey. The Unwanted Gaze: The Destruction of Privacy in America. New York: Random House, 2000.

Soros, George. George Soros on Globalization. Public Affairs: 2002.

Van Creveld, Martin. The Transformation of War. 1991.

Wilson, Edward O. The Future of Life. New York: Alfred A. Knoff, 2002.

Wright, Robert. Nonzero: The Logic of Human Destiny. 2000.

Book Chapters:

The Dangers of Peace (Ch. 9). The Coming Anarchy. Robert Kaplan, 2000.

Fiddling While Rome Burns (Ch. 12). Darwin Among the Machines. George B. Dyson, 1997.

Future War (Ch. 7). The Transformation of War. Martin van Creveld, 1991.

If You Want to Speak to a Human Being, Press 1 (Ch. 17) The Lexus and the Olive Tree. Thomas Friedman, 1999.

Last and First Men (Ch. 11) Darwin Among the Machines, George B. Dyson, 1997.

The Multitude Against Empire (Ch. 4.3). Empire. Michael Hardt & Antonio Negri, 2000.

A New Foundation (Ch. 13) The Future of War. George & Meredith Friedman, 1996.

Preface. Empire. Michael Hardt & Antonio Negri, 2000.

Preparing for the Twenty-First Century (Ch. 14). Preparing for the Twenty-First Century. Paul Kennedy, 1993.

The Shape of Things to Come (Postscript). The Transformation of War. Martin van Creveld, 1991.

Space and the Future of American Strategy (Ch. 14) The Future of War. George & Meredith Friedman, 1996.

There is a Way Forward (Ch. 18). The Lexus and the Olive Tree. Thomas Friedman, 1999.

The West, Civilizations, and Civilization (Ch. 12). The Clash of Civilizations and the Remaking of World Conflict. Samuel P. Huntington, 1996.

Articles:

"A Globe Clothing Itself With a Brain." *Wired*. 1995.

"Artificial Intelligence for the New Millennium." *The New York Times*, Jun 29, 2001.

"A Watchful State." *The New York Times*. 10/7/01. Section 6, page 38.

"Battlefield Space." *The New York Times Magazine*, Aug 5 2001.

"Big Brother or Friendly Coach?" *Exploring Your Future*, World Future Society, 2000.

"Bush's Advisers on Ethics Discuss Human Cloning." *The New York Times*. 1/18/02.

"Bush's No Win Choice." *Time*. 7/23/01.

"Can the I.M.F. Tame the Capital Beast?" *The New York Times*. 10/14/01. Section 3, page 5.

"Danny Hillis's Vision."

http://white.ece.ncsu.edu/nnresearch/Items/danny_hilliss_vision.htm

"Dehydrating Conflict." Postel, Sandra L. *Foreign Policy*. Sept/Oct 2001.

“Disputes on Electronic Message Encryption Take On New Urgency.” *The New York Times*. 9/25/01. Section C, page 1.

“Doomsday Scenarios.” *The Futurist*. Nov/Dec 2001.

“Economic Scene.” *The New York Times*. 1/31/02.

“Efforts to Transform Computers Reach Milestone.” *The New York Times*. 12/20/01.

“The Emergent Kingdom: Machines that Think like People.” *Exploring Your Future*, World Future Society, 2000.

“Euro Deposits the Mark, Grieving Many Germans.” *The New York Times*. 8/30/01.

“Evolution Revolution.” *Wired*, January 1997.

“Fertility Ethics Authority Approves Sex Selection.” *The New York Times*. 9/28/01. Section A, page 16.

“Five Forces Transforming Communications.” *The Futurist*, Sep-Oct 2001.

“Fliers’ Private Lives Face New Screening.” *The International Herald Tribune*. 2/2/02.

“Foreign Policy, Values and Globalisation.” *Financial Times*. 1/31/02.

“Four Visions of the Century Ahead: Will it be Star Trek, Ecotopia, Big Government, or Mad Max?” *Robert Costanza*.

“A Globe Clothing Itself With a Brain.” *Wired*. 1995.

“Health Aid for Poor Countries.” *The New York Times*. 1/3/02.

“IBM creates a Tiny Circuit Out of Carbon.” *The New York Times*, August 27, 2001.

“In the Next Chapter, Is Technology an Ally?” *The New York Times*. 9/27/01. Section G, page 1.

“Liquid Logic.” *Wired*. September 2001.

“Living Under an Electronic Eye.” *The New York Times*. 9/27/01. Section G, page 1.

“Mr. Order Meets Mr. Chaos.” *Foreign Policy*, May-Jun 2001.

“On the Threshold: Environmental Change as Causes of Acute Conflict.” *International Security*, 1991.

“Scientists Find That Tiny Pipes Offer Big Payoffs.” *The New York Times*.” 1/1/02.

“Sometimes the Luddites are Right.” *The Futurist*, Sep-Oct 2001.

“Surveillance: From ‘Big Brother’ to Safety Tool.” *The New York Times*.” 12/6/01.

“Technical Glimpses from the Future: Scanning the Science Press.” *Futures Research Quarterly*, Summer 2001.

“The CIA Widens Its Domestic Reach.” *The New York Times*. 1/20/02.

“The Faceless Enemy.” *The New York Times*. 10/14/01. Section 7, page 11.

“The Increase in Chip Speed is Accelerating, Not Slowing.” *The New York Times*. 2/4/02.

“The Recycled Generation.” *The New York Times Magazine*, January 30, 2000.

“The Top Ten Technologies for the Next 10 Years.” *Exploring Your Future*, World Future Society, 2000.

“Threat of National ID.” *The New York Times*. 12/24/01.

“Touch of Evil.” Reviewed by Jeff Stein. *The Washington Post*. 10/21/01. Book World Section, page T05.

“What’s Next?” *Popular Science*, Summer 2001.

“Why the future doesn’t need us.” *Wired*, April 2000.

“Will Globalization Go Bankrupt?” *Foreign Policy*. Sept/Oct 2001.

Other:

David Rejeski. Slide Presentation “The Changing Environment for Governance.”
<http://wwics.si.edu/mediaguide/rejrschint.htm#plan>

Leon Fuerth, Annual Shapiro Lecture, “*Revisiting the End of History, the Coming of the New Historical Era*,” November 6, 2001.
<http://www.gwu.edu/~elliott/news/transcripts/shapiro.html>

Leon Fuerth, Annual Shapiro Lecture, “*Networking and the Future of Democracy: Mastering the Future Before it Masters Us*,” November 21, 2002.
<http://www.gwu.edu/~elliott/news/transcripts/shapiro1.html>

Scanning - track or input operation
↳ & reporting result to those who
r forecasting