

Grand Challenges Initiative

Courses of Interest - Spring 2009 Courses



Siebel Energy Grand Challenge

- AOS 537/GEO 537: Atmospheric Chemistry** – Larry W. Horowitz
- AOS 547: Atmospheric Thermodynamics and Convection** – Leo Donner
- AOS 572: Atmospheric and Oceanic Wave Dynamics** – Sonya A. Legg, Isidoro Orlanski, Geoffrey K. Vallis
- AOS 575: Numerical Prediction of the Atmosphere and Ocean** – Robert W. Hallberg
- ARC 304: The Historical Development of Urban Form (HA)** – M. Christine Boyer
- ARC 406/ENV 406: Energy and Form (STX)** – Hillary A. Brown
- ARC 515: The Environmental Engineering of Buildings, Part II** – Mahadev Raman
- ARC 586: Material Ecologies** – Jane C. Harrison
- AST 309/MAE 309/PHY 309: Nuclear Energy in a Carbon-Constrained World: Fission and Fusion** – Alexander Glaser, Robert J. Goldston
- AST 358: Seminar in Plasma Physics** – Nathaniel J. Fisch, Allan H. Reiman
- CEE 303/ENV 303/URB 303: Introduction to Environmental Engineering (STX)** – Elle Bou-Zeid, Michael A. Celia
- CEE 445: Air Quality and Aerosol Processes** – Mark A. Zondlo
- CHE 246: Thermodynamics (STX)** – Athanassios Z. Panagiotopoulos
- CHE 346: Chemical Engineering Laboratory** – Jay B. Benziger, Shankaran Sundaresan, David W. Wood
- CHE 505: Advanced Heat and Mass Transfer** – Robert K. Prud'homme
- CHM 306: Physical Chemistry: Chemical Thermodynamics and Kinetics** – Michael T. Kelly
- CHM 333/ENV 333: Oil to Ozone: Chemistry of the Environment (STX)** – Francois Morel
- CHM 525/ENV 525: Production of Renewable Fuels and Energy** – Gerard C. Dismukes
- EGR 194/MAT 194/PHY 194: An Introduction to Engineering, Mathematics & Physics (ST)** – Michael G. Littman, Jennifer L. Rexford
- ELE 541/MSE 510: Electronic Materials** – James C. Sturm, Sigurd Wagner
- ELE 555: Selected Topics in Optics and Optical Electronics** – Gerard Wysocki
- ELE 577: Low Power IC and System Design** – Niraj K. Jha
- ENV 204A/GEO 104A and ENV 204B/GEO 104B (ST): Global Warming: Causes, Consequences, Policy Responses** – Michael Oppenheimer, Eileen Zerba
- ENV 305: Topics in Environmental Studies: Environmental Science Writing** – Anne M. Matthews
- ENV 306: Topics in Environmental Studies: American Environmental History (HA)** – Frank J. Popper
- ENV 320: Feeding the World While Saving the Planet** – Timothy D. Searchinger

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- ENV 340: Environmental Challenges and Sustainable Solutions (ST)** – Eileen Zerba
- ENV 352/CHV 352: Environmental, Ecological, and Climate Justice (EM)** – David Schlosberg
- FRS 120: Life on Mars -- Or Maybe Not (SA)** – Michael D. Lemonick, Edwin Lewis Turner
- FRS 122: The Everglades Today and Tomorrow: Global Change and the Impact of Human Activities on the Biosphere (ST)** – Anne Morel-Kraepiel
- FRS 136: Living in a Polluted Greenhouse (SA)** – Denise Mauzerall
- FRS 140: Life in a Nuclear-Armed World (SA)** – Zia Mian
- FRS 170: Economics of Environmental Protection (SA)** – Smita Brunnermeier
- FRS 184: Materials and Technology for a Sustainable Energy Future (ST)** – Craig B. Arnold
- GEO 202A/202B (ST): Oceanography: An Introduction to the World's Oceans** – Jorge L. Sarmiento, Danielle M. Schmitt
- GEO 399/ENV 399: Environmental Decision Making** – Gregory E. van der Vink
- GEO 450/CEE 450/ENV 450: Earth Surface Processes** – Adam C. Maloof
- GEO 499/ENV 499: Environmental Change, Poverty and Conflict** – Gregory E. van der Vink
- GEO 523/CEE 572: Geomicrobiology** – Tullis C. Onstott
- JRN 447: Politics and the Media – Linking Science Journalism to Politics and Economics (SA)** – Elisabeth Rosenthal
- JRN 449: International News** – Thanassis Cambanis
- MAE 328/EGR 328/ENV 328: Energy for a Greenhouse-Constrained World** – Robert H. Socolow
- MAE 426: Rocket and Air-Breathing Propulsion Technology** – Yiguang Ju
- MAE 427: Energy Conversion & the Environment: Transportation Applications** – Frederick L. Dryer
- MAE 522/AST 564: Applications of Quantum Mechanics to Spectroscopy and Lasers** – Szymon Suckewer
- MAE 532: Combustion Theory** – Chung K. Law
- MAE 598: Graduate Seminar in Mechanical & Aerospace Engineering** – Edgar Y. Choueiri
- NES 266/ENV 266: Oil, Energy and the Middle East (SA)** – Bernard A. Haykel
- NES 283: Social History of the Modern Middle East (HA)** – Cyrus Schayegh
- PHY 115A/115B: Future Physics (QR/ST)** – Paul J. Steinhardt
- WWS 334/ENV 334: Global Environmental Issues (SA)** – Denise L. Mauzerall
- WWS 582E: Topics in Applied Economics: Energy Economics** – Amy B. Craft

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WWS 586D: Topics in Science, Technology and Environmental Policy – Global Environmental Governance –
Michael Oppenheimer

For more information on Siebel Energy Grand Challenge, please contact Princeton Environmental Institute,
Pascale Maloof Poussart, Assistant Director – Energy Initiatives, 144 Guyot Hall, (609) 258-7050,
poussart@princeton.edu.



Development Grand Challenge

AFS 374: African Development and Globalization – Mahamadou L. Sagna

CEE 307/EEB 305: Field Ecohydrology (Kenya) – Kelly K. Caylor

EEB 380: Ecology and Conservation on African Landscapes (Kenya) – Corinna Riginos, Philip Muruthi

EEB 404: Natural History of Mammals (Kenya) – Daniel Rubenstein

ENV 340: Environmental Challenges and Sustainable Development – Eileen Zerba

MAE 436: Global Technology (Kenya) – Winston Soboyejo

For more information on Development Grand Challenge, please contact Ecology & Evolutionary Biology,
Lolly O'Brien, Undergraduate/Graduate Program Administrator, 102 Guyot Hall, (609) 258-3977,
lolly@princeton.edu.

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Health Grand Challenge

AAS 403/ANT 403: Race and Medicine – Carolyn Rouse

ANT 431: Biomedical Anthropology – Alan Mann

EEB 328: Ecology and Epidemiology of Parasites and Infectious Diseases – Andrew Dobson

ENV 304/ECO 328/EEB 304: Disease Ecology, Economics, and Policy – Ramanan Laxminarayan

GHP 351: Critical Perspectives on Global Health and Health Policy – Burton Singer, Christina Paxson, Evan Lieberman

HIS 293: Science in a Global Context: 15th to 20th Century – D. Graham Burnett

MAE 344: Introduction to Bioengineering and Medical Devices – Winston Soboyejo

MOL 205: Genes, Health, and Society – Leon E. Rosenberg

MOL 328/WWS 399: U.S. Medical Research and Researchers: Preeminence, Problems, Policies – Leon E. Rosenberg

MOL 425/WWS 474: Infection: Biology, Burden, Policy – Adem Mahmoud, Thomas Shenk, Burton Singer

PSY 320: Theories of Psychotherapy – Ronald Comer

SPA 108: Advanced Spanish (“Medical” section) – Maria Jose Souto-Portas

SPA 207: Advanced Spanish (“Medical” section) – Alberto Bruzos Moro

STC 349: Science Journalism – Michael Lemonick

WWS 315: Bioethics and Public Policy – Harold Shapiro

WWS 320/MOL 320: Human Genetics, Reproduction, and Public Policy – Lee Silver

For more information on Health Grand Challenge, please contact Center for Health and Well-Being, Woodrow Wilson School, Kristina M. Graff, 347 Wallace Hall, (609) 258-8271, kgraff@princeton.edu.