
Interdisciplinary Programs

Undergraduate Programs

Degrees

Bachelor of Arts

American Studies and Ethnicity (see American Studies and Ethnicity, page 251)
 American Studies and Ethnicity (African American Studies) (see American Studies and Ethnicity, page 252)
 American Studies and Ethnicity (Asian American Studies) (see American Studies and Ethnicity, page 253)
 American Studies and Ethnicity (Chicano/Latino Studies) (see American Studies and Ethnicity, page 254)
 Animation and Digital Arts (see Cinematic Arts, page 212)
 East Asian Area Studies (see East Asian Area Studies, page 313)
 Environmental Studies (see Environmental Studies, page 341)
 Gender Studies (see page 351)
 Health and Humanity (see page 360)
 Interdisciplinary Archaeology (see Anthropology, page 261)
 Interdisciplinary Studies (see page 371)

International Relations (Global Business) (see International Relations, page 373)
 Linguistics/East Asian Languages and Cultures (see Linguistics, page 393)
 Linguistics/Philosophy (see Linguistics, page 392)
 Linguistics/Psychology (see Linguistics, page 392)
 Middle East Studies (see page 408)
 Narrative Studies (see English, page 331)
 Neuroscience (see page 411)
 Philosophy, Politics and Law (see Philosophy, page 418)
 Religion, emphasis in Judaic Studies (see Religion, page 456)
 Social Sciences, emphasis in Economics (see Economics, page 322)
 Social Sciences, emphasis in Psychology (see Psychology, page 448)
 Visual and Performing Arts Studies (see Theatre, page 920)

Bachelor of Science

Biochemistry (see Biological Sciences, page 276)
 Biophysics (see Physics and Astronomy, page 427)
 Business Administration (Cinematic Arts) (see Business, page 148)
 Business Administration (East Asian Studies) (see Business, page 148)
 Business Administration (International Relations) (see Business, page 149)
 Computer Science/Business Administration (see Computer Science, page 628)
 Economics/Mathematics (see Mathematics, page 401)
 Environmental Studies (see Environmental Studies, page 341)
 Global Health (see Preventive Medicine, page 778)
 Physical Sciences (see Physics, page 428)
 Physics/Computer Science (see Physics and Astronomy, page 427)

Minors

American Popular Culture (see American Studies and Ethnicity, page 255)
 American Studies and Ethnicity (see American Studies and Ethnicity, page 254)
 Ancient Religion and Classical Languages (see Religion, page 456)
 Animation and Digital Arts (see Cinematic Arts, page 225)
 Arabic and Middle East Studies (see Linguistics, page 393)
 Bioethics (see page 274)
 Biotechnology (see Biological Sciences, page 277)
 Business Law (see Business, page 150)
 Children and Families in Urban America (see Social Work, page 858)
 Cinema-Television for the Health Professions (see Cinematic Arts, page 226)
 Communication and the Entertainment Industry (see Communication, page 484)
 Communication Design (see Fine Arts, page 676)
 Communication Law and Media Policy (see Communication, page 486)

Computational Biology and Bioinformatics (see Biological Sciences, page 277)
 Construction Planning and Management (see Engineering, page 614)
 Consumer Behavior (see Interdisciplinary Programs, page 110)
 Craniofacial and Dental Technology (see Dentistry, page 520)
 Critical Approaches to Leadership (see page 371)
 Cultural Studies (see English, page 333)
 Cultures and Politics of the Pacific Rim (see East Asian Languages and Cultures, page 316)
 Digital Studies (see Cinematic Arts, page 204)
 Early Modern Studies (see English, page 333)
 East Asian Area Studies (see East Asian Area Studies, page 313)
 Education in a Pluralistic Society (see Education, page 551)
 Engineering Management (see Engineering, page 653)
 Engineering Technology Commercialization (see Engineering, page 571)
 Environmental Studies (see page 342)

Folklore and Popular Culture (see Anthropology, page 261)
 Forensics and Criminality (see Sociology, page 466)
 Gender Studies (see page 351)
 Geobiology (see Earth Sciences, page 307)
 Global Communication (see Communication, page 374)
 Health Communication (see Communication, page 486)
 Health Policy and Management (see Policy, Planning, and Development, page 858)
 Human Rights (see Political Science, page 436)
 Interactive Multimedia (see Engineering, page 665)
 International Policy and Management (see International Relations, page 374)
 Jewish American Studies (see American Studies and Ethnicity, page 255)
 Judaic Studies (see page 383)
 Latin American Studies (see Spanish and Portuguese, page 472)

Law and Public Policy (see Policy, Planning, and Development, page 859)
 Law and Society (see Political Science, page 436)
 Managing Human Relations (see page 110)
 Mathematical Finance (see page 111)
 Middle East Studies (see page 409)
 Musical Theatre (see Music, page 801)
 Natural Science (see Biological Sciences, page 278)
 Neuroscience (see page 412)
 Nonprofits, Philanthropy and Volunteerism (see Policy, Planning, and Development, page 859)
 Peace and Conflict Studies (see page 416)

Performing Arts Studies (see Theatre, page 925)
 Photography and Social Change (see page 112)
 Political Organizing in the Digital Age (see Political Science, page 437)
 Psychology and Law (see Psychology, page 449)
 Race, Ethnicity and Politics (see Political Science, page 437)
 Russian Area Studies (see Slavic Languages and Literatures, page 462)
 Southeast Asia and Its People (see Anthropology, page 262)

Thematic Approaches to the Humanities and Society (see Thematic Option, page 477)
 Theories of Art (see Philosophy, page 419)
 3-D Animation (see Fine Arts, page 660)
 3-D Art for Games (see Fine Arts, page 678)
 2-D Art for Games (see Fine Arts, page 678)
 Video Game Design and Management (see Engineering, page 661)
 Visual Culture (see Art History, page 268)

Programs

Collaborative Learning Projects (see Learner Centered Curricula, page 389)
 Honors in Multimedia Scholarship (see School of Cinematic Arts, page 221)
 Individual Programs of Study (see Learner Centered Curricula, page 389)
 Liberal Arts Modules (see Thematic Option, page 477)

Graduate and Professional Programs

Degrees

Master's Degrees

Cell and Neurobiology (see Medicine, page 763)
 Clinical and Biomedical Investigations (see Medicine, page 748)
 Construction Management (see Civil Engineering, page 615)
 Digital Supply Chain Management (see Business, page 164)
 Green Technologies (see Engineering, page 650)
 Health Systems Management Engineering (see Industrial and Systems Engineering, page 655)
 Medical Device and Diagnostic Engineering (see Engineering, page 596)

Philosophy and Law (see Philosophy, page 420)
 Physiology and Biophysics (see Medicine, page 775)
 Public Diplomacy (see Communication, page 490)

Graduate Certificates

Engineering Technology Commercialization (see Engineering, page 577)
 Health Systems Operations (see Engineering, page 657)
 Innovation (see Graduate School, page 104)
 Optimization and Supply Chain Management (see Business, page 165)
 Sustainable Cities (see Policy, Planning, and Development, page 879)
 System Safety and Security (see Engineering, page 657)

Transportation Systems (see Policy, Planning, and Development, page 616)
 Urban and Global Studies (see page 113)
 Visual Studies (see Art History, page 270)

Doctor of Philosophy

Computational Biology and Bioinformatics (see Biological Sciences, page 281)
 Molecular Pharmacology and Toxicology (see Pharmacy, page 838)
 Pharmaceutical Sciences (see Pharmacy, page 842)
 Physiology and Biophysics (see Medicine, page 775)

Interdisciplinary Programs

Bachelor of Arts in Narrative Studies

Narrative studies prepares students for the development and evaluation of original content for novels, films, theatre and other narrative platforms, but recognizes that the range of professional opportunities in literature and the performing arts is much wider than the roles of author, screenwriter or playwright.

Narrative Studies assumes that an effective narrative will be adapted from the medium in which it first appears as new media become available. To prepare students for a future in which the platform is likely to change, the Bachelor of Arts in Narrative Studies allows students to study across the current platforms while concentrating on the techniques of effective construction common to them all.

In so doing, it draws upon course work from several schools of art but finds its home in the humanities.

See the Department of English, page 330, for a complete listing of requirements.

Minor in Consumer Behavior

Accounting 306 (213) 740-5033

This interdisciplinary minor explores consumer thinking from the perspectives of psychology, marketing, economics, anthropology, sociology and other departments interested in popular culture. Why do people form the attitudes and impressions they do? How do individual factors, culture, mass media, economics and social trends influence people's decisions?

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (which may be the same four courses). Finally, students must select four courses outside their major department. Psychology majors must choose four courses outside of psychology; business majors must choose four courses outside of the Marshall School of Business.

REQUIREMENTS		UNITS
Choose one of the following courses (4 units).		
BUAD 307	Marketing Fundamentals	4
PSYC 100	Introduction to Psychology	4
Choose one of the following courses (4 units):		
MKT 450	Consumer Behavior and Marketing	4
PSYC 355*	Social Psychology	4
SOCI 320	Social Psychology	4
Choose two of the following courses (8 units):		
ANTH 460	Economic Anthropology	4
COMM 302	Persuasion	4
MKT 405*	Advertising and Promotion Management	4
MKT 410*	Personal Selling	4
ECON 432*	Economics of Happiness	4
PSYC 451*	Formation and Change of Attitudes	4
PSYC 454*	Social Cognition	4

Choose one of the following courses (4 units):		UNITS
COLT 365	Literature and Popular Culture	4
COMM 384	Interpreting Popular Culture	4
ENGL 392	Visual and Popular Culture	4
HIST 380	American Popular Culture	4
MKT 470*	Marketing Research	4
PSYC 490x	Directed Research	4

*Prerequisites required

(Please note that prerequisites will not be waived for upper-division courses; students must complete the introductory classes they will need.)

Total requirements: five courses 20 units

Minor in Managing Human Relations

College Academic Services Building (213) 740-2534

This interdisciplinary minor is intended for students in all schools with an interest in human relations as a subject of study or professional goal. In addition to course work in organizational behavior, social psychology and management, this minor includes attention to questions of ethics and leadership.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (not used for credit toward a major, another minor or general education requirements). Finally, students must select four courses outside their major department. Students seeking the Bachelor of Arts in Sociology must choose four courses outside of sociology; those seeking the Bachelor of Science in Business Administration must choose four courses outside the Marshall School.

REQUIREMENTS		UNITS
Choose one course from the following (4 units):		
BUAD 304	Organizational Behavior	4
PSYC 355*	Social Psychology	4
SOCI 320	Social Psychology	4

Choose one course from the following (4 units):

MOR 431*	Interpersonal Competence and Development	4
PSYC 457*	Applied Social Psychology	4
SOCI 340	Organizations: Bureaucracy and Alternatives to Bureaucracy	4
SOCI 342	Race Relations	4
SOCI 345	Social Institutions	4

Choose one course from the following list of classes on leadership (4 units):

CLAS 370	Leaders and Communities: Classical Models	4
IR 303	Leadership and Diplomacy	4
MOR 470*	Global Leadership	4
MDA 325	Case Studies in Modern Leadership	4

MDA 365	The Art and Adventure of Leadership	4
PHIL 335	Theoretical Models of Leadership	4

Choose one course from the following list of classes on ethics (4 units):

BUCO 425*	Public Communication in Ethics and Research	4
MOR 421*	Social and Ethical Issues in Business	4
PHIL 340	Ethics	4
REL 341	Ethics in a Technological Society	4
REL 375	Conflict and Change and the Ethics of Business	4

Choose one of the following three capstone classes (4 units):

ECON 332*	Contracts, Organizations, and Institutions	4
ECON 471*	Economics of Labor Markets and Human Capital	4
MOR 471	Managing and Developing People	4
SOCI 340	Work and the Workplace	4

*Course has prerequisite or corequisite
 Total requirements: five courses 20 units

Minor in Mathematical Finance

Kaprielian Hall 108 (213) 740-2400

This interdisciplinary minor was created for students in business, economics and mathematics, whose majors already require some of the introductory course work. Students in other programs are welcome but should expect the minor to require more units than it does for students in those programs.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (which may be the same four courses). Finally, students must select four courses outside their major department. Economics majors must choose four courses outside of economics; math majors must choose four courses outside of math; business majors must choose four courses outside of the Marshall School of Business. These may be the same courses used to meet the first two conditions.

REQUIREMENTS		UNITS
ECON 203	Principles of Microeconomics, and	4
ECON 205	Principles of Macroeconomics	4
or		
ECON 251x	Microeconomics for Business, and	4
ECON 252	Macroeconomics for Business	4

Choose one of the following two sequences (8 units):

ECON 303*	Intermediate Microeconomic Theory	4
ECON 305*	Intermediate Macroeconomic Theory	4

or

BUAD 350*	Macroeconomic Analysis for Business Decisions	4
BUAD 351*	Economic Analysis for Business Decisions	4

Choose two courses, one from each of the following pairs (8 units):

MATH 118x	Fundamental Principles of the Calculus, or	
MATH 125	Calculus I	4
MATH 218*	Probability for Business, or	
MATH 407*	Probability Theory	4

Choose two courses from the following list (8 units):

MATH 126 or MATH 127; MATH 225 or MATH 245; MATH 226 or MATH 227; MATH 408 or MATH 467

Choose one course from the following list (4 units):

BUAD 306, BUAD 310, ECON 350*, ECON 357*, FBE 441*

Choose one course from the following list (4 units):

ECON 452*, ECON 457*, FBE 324*, FBE 421*, FBE 443*, FBE 445*, FBE 459*, FBE 462*, FBE 464*

Choose one course from the following:
 ITP 109x, ITP 110x, CSCI 101

*Prerequisite required

Total requirements, for students with no prior course work: 42-43 units

Students majoring in business administration, economics or mathematics can meet many of these requirements with course work that also satisfies their majors. In addition to those classes, students in those majors must complete the following requirements:

- Business majors satisfy 24 units with course work that is also required for the major and need to complete only 18 units in MATH, ECON and ITP or CSCI
- Economics majors satisfy 20-24 units with course work required for the major (including one major elective), needing only 18-22 units in BUAD, FBE, ITP or CSCI and MATH
- Mathematics majors satisfy 16 units with course work required for the major, needing only 26 units in BUAD, ECON, FBE and ITP or CSCI

Minor in Photography and Social Change

This minor explores the potential of photography as an instrument of social change that allows individuals to document their circumstances, share their stories and change their lives. Students have the opportunity to examine the impact of images and the power of storytelling both in the classroom and in the field and study the issues raised by this kind of social exploration and commentary.

Students learn techniques of digital photography and theories of culture to help them understand diverse cultural phenomena and navigate their own cultural biases. In the field, students apply these techniques and theories by developing their own body of work. In addition, students can mentor individuals in the community to use photography and digital media to share their personal narratives, thus empowering community members to reflect critically upon their circumstances and to participate in their visual representation.

This interdisciplinary minor brings together students from schools and majors across the USC campus, allowing them to interact with one another and with scholars, artists and professionals associated with key organizations such as the Institute for Photographic Empowerment and Venice Arts.

LOWER DIVISION REQUIREMENT	UNITS
Select one course, based on prior preparation (4 units)	
AHIS 255 Culture Wars: Art and Social Conflict in the USA, 1900-Present	4

ANTH 240	Collective Identity and Political Violence: Representing 9/11	4
FAIN 210	Introduction to Digital Photography	4
SOCI 250	Grassroots Participation in Global Perspective	4

UPPER DIVISION REQUIREMENTS

Select two courses in each category below, from different departments (16 units)

UPPER DIVISION REQUIREMENTS	UNITS
<i>Understanding Culture and Change</i> (8 units, in 2 courses – each from a different department)	
AMST 357 Latino Social Movements	4
COLT 303 Globalization: Culture, Change, Resistance	4
GEOG 350 Race and Environmentalism	4
IR 371 Global Civil Society: Non-Governmental Organization in World Politics	4
JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era	4
POSC 323 Applied Politics: Civic Engagement and Leadership	4
POSC 441 Cultural Diversity and the Law	4
REL 336 Re-viewing Religion in Asian America	4
REL 366 Religion and Social Change	4

SOCI 360	Social Inequality: Class, Status, and Power	4
SOCI 470	Development and Social Change in the Third World	4

Media and Message (8 units, in 2 courses – each from a different department)

AHIS 373	History of Photography	4
AHIS 469	Critical Approaches to Photography	4
ANTH 472	Visual Techniques in Anthropology: Stills	4
COLT 487	Critical Image	4
COMM 366	Designing Media and Communication Projects for Social Change	4
COMM 451	Visual Communication and Social Change	4
FAIN 310	Digital Photo Studio	4
JOUR 422	Visual Journalism	4

Students in this program will also have opportunities for special access to USC Annenberg's Public Diplomacy classes.

Total requirements: 20 units

University Requirements for All Minors

To satisfy the university's minor requirements, students must choose at least four courses (16 units) outside their major department and at least four courses (16 units) of upper-division course work. In addition, at least four courses (16 units) must be dedicated to the minor (not counting for credit toward a major, another minor or USC core requirements).

Honors in Multimedia Scholarship

Program Overview

Honors in Multimedia Scholarship offers all undergraduate students an opportunity to approach their chosen major field(s) of study through the critical application of multimedia scholarship and expression. This four-year program introduces students to the theory and practice of multimedia and provides the opportunity to develop skills in multimedia authorship, collaboration, leadership and creative thinking.

Honors in Multimedia Scholarship is designed to address the changing nature of scholarship and literacy in the digital age, introducing students to a broad range of expressive possibilities using images, sound, dynamic media and interactivity in addition to traditional, text-based scholarship.

No prior experience with multimedia is required, but students should be willing to engage with new media technologies, ways of thinking and modes of expression. This program is open to students from all departments and schools.

For complete information, please see the Institute for Multimedia Literacy section in the School of Cinematic Arts, page 221.

Minor in Digital Studies

Program Overview

The minor in Digital Studies explores the rich potential of digital media for critical analysis and creative discovery. Learning the exciting and dynamic potential of a broad

array of tools and technologies, students create innovative projects, from photo essays to Web-based documentaries, from interactive videos to sophisticated Websites, and from typography in motion to 3-D visualizations. Elective courses explore media for social change, the ethics of virtual worlds, transmedia expression and more, allowing students to use media in pursuit of their own interests and to enhance their major.

For complete information, please see the Institute for Multimedia Literacy section in the School of Cinematic Arts, page 221.

USC Stevens Institute for Innovation

(213) 821-5000
 FAX: (213) 821-5001
 Email: stevens.usc.edu

The USC Stevens Institute for Innovation is a university-wide resource in the Office of the Provost designed to harness and advance creative thinking and breakthrough research at USC for the benefit of society. The USC Stevens Institute identifies, nurtures, protects and transfers the most exciting innovations from USC to the market, and, in turn, provides a central connection for industry seeking cutting-edge innovations in which to invest. From the biosciences and technology to music and cinematic arts, the USC Stevens Institute connects faculty, students and the business community to create an environment for stimulating and inspiring innovation and innovators.

USC has many existing programs and courses spanning engineering, music, cinematic arts, fine arts, medicine and business that teach innovation. One of the goals of the USC Stevens Institute is to identify, nurture and promote these courses across USC. Engineers

and science students may be particularly interested in the undergraduate minor and a graduate certificate in engineering technology commercialization.

For the most up-to-date innovation course work and classes, visit the USC Stevens Institute online at stevens.usc.edu/be_coursework.php.

“Research universities in the 21st century not only will be judged by the quality of their research and the quality of their students, but also by how successful they are in transferring innovation into the marketplace in order to meet societal needs.”

C. L. Max Nikias
 President, University of Southern California

Graduate Certificates

- Graduate Certificate in Engineering Technology Commercialization, page 577
- Graduate Certificate in Technology Commercialization, page 167

Undergraduate Minors

- Minor in Biotechnology (combines science and business courses), page 277
- Minor in Engineering Technology Commercialization, page 571
- Minor in Video Game Design and Management, page 661

Innovation Course Work

- AME 503 Advanced Mechanical Design
- BAEP 551 Introduction to New Ventures
- BAEP 556 Technology Feasibility
- BAEP 557 Technology Commercialization
- BUAD 301 Technological Entrepreneurship
- CTIN 488 Game Design Workshop
- ENGR 493 Dean’s Seminar in Entrepreneurship
- FASC 436 Art and Technology
- ISE 545 Technology Development and Implementation
- MOR 467 Strategic Management of Technology and Innovation
- MOR 561 Strategies in High Tech Businesses
- MPTX 511 Regulation of Pharmaceutical and Biological Products
- MUIN 496 Music Media Solutions

Urban Initiative

The USC Urban Initiative offers a graduate certificate in urban and global studies. Faculty from across the university’s professional schools and Dornsife College of Letters, Arts and Sciences actively engage in inter- and trans-disciplinary scholarship that bridges basic and applied research.

Faculty and students undertake applied and theoretical urban scholarship in an environment that promotes inquiry, introduces principles and values and teaches the skills necessary to work on complex urban problems in multidisciplinary environments and to develop the common language essential to effective collaboration.

Graduate Certificate in Urban and Global Studies

The Urban and Global Studies certificate provides an intense, interdisciplinary, intellectual educational, research and training experience focused on cities in global context to doctoral students from diverse professional and academic disciplines.

Urban challenges today are complex, often global problems that defy solutions from one discipline. The Urban and Global Studies certificate seeks to train a new generation of scholars with the skills to bridge basic and applied research, work collaboratively across disciplines, and think beyond national or local spheres to discover better solutions to complex problems. It offers scholars from interdisciplinary and disciplinary fields a unique opportunity to exchange respective methodologies and develop an enlarged community of communication.

A critical component of participation in the Urban and Global Studies certificate will be an international research project in the summer of the second year of the Ph.D. program. This will provide the student cohort with critical international comparative experience.

Admissions Criteria

Applicants for admission to the Urban and Global Studies certificate must be full-time currently enrolled students in good standing in a USC Ph.D. program. Applicants will be expected to have completed one year of full-time study in their respective schools prior to admission (generally, students will apply in the spring of their first year of study; however, other applicants further along in their Ph.D. studies will also be considered). Admitted students will generally enroll in the certificate courses during the second and third year of their Ph.D. studies.

Admission to the certificate program is highly selective and competitive. Preference is given to those with professional and academic qualities favoring success in interdisciplinary collaboration and scholarship around complex problem-solving.

Applicants must supply (1) a one-page statement of their professional and academic background and interests and career goals related to the certificate; (2) a letter of recommendation from a faculty member who knows the student's work well; and (3) a brief letter from the departmental chair (for applicants in USC Dornsife College departments) or program advisor (for professional school applicants) indicating that the applicant is a currently enrolled student in good standing. Applications must be signed by the dean or a designated signer.

For specific information on admission requirements, application procedures and urban and global fellowships contact the Urban Initiative office at (213) 740-8181.

Graduate Certificates

Energy, Technology and Society
 Mark Taper Hall, THH 355
 (213) 740-1384
 Email: kaylor@college.usc.edu

Directors: Mark Bernstein (*Political Science*);
 James Haw (*Chemistry*)

The Energy, Technology and Society graduate certificate program is a multidisciplinary program open to USC students pursuing graduate degrees in many disciplines including architecture, biology, chemistry, communication, earth sciences, economics, education, engineering, geography, international relations, political science, public policy, sociology and urban planning.

Energy has become an increasingly volatile and uncertain commodity. Relatively small changes in supply can cause large swings in prices. Energy is the also the main cause of worsening air quality in most major urban areas. The consumption of fossil fuels is the primary cause of emission of greenhouse gases, which is a major factor in global climate change. Reducing greenhouse gas emission will be a complex and daunting task for the coming decades.

While many academic disciplines include elements of energy and environmental issues, leaders will require multidisciplinary education, training and experiences to create an economically viable and environmentally sound future. Future decision-makers and analysts need to be able to develop new paradigms for how to integrate a portfolio of technologies, with changes in consumer behavior and new policies.

URBAN STUDIES (URBN)

URBN 601 Pro-Seminar in Urban and Global Studies (1, max 3, FaSp) Introduces students to the issues and problems of global cities and a range of urban scholars via the Urban Initiative lecture series. Open to Urban and Global Studies students only. Graded CR/NC.

URBN 603 Comparative Urbanism: Theory, Method, Policy (4, Fa) A critical overview of the city in history, past and present approaches to urban theory, the dynamics of contemporary urbanization and urban outcomes, and prospects for managing urban growth and change. Open to Urban and Global Studies students only. *Concurrent enrollment:* URBN 601.

URBN 605 Interdisciplinary Methods of Inquiry in Urban and Social Problems (3, Sp) Engages participants in discourse about the characteristics of urban problems and intellectual foundations of ways to solve them. It offers communication and language skills across disciplines. Open to Urban and Global Studies students only. *Prerequisite:* URBN 603; *concurrent enrollment:* URBN 601.

URBN 700 Grand Challenge Integrative Seminar (3, Sp) Seminar builds on knowledge and assignments of the Grand Challenge courses. Students describe, analyze and compare the work they did in their separate Grand Challenge courses. Open to Urban and Global Studies students only. *Prerequisite:* URBN 603, URBN 605.

This program seeks to equip students with the tools to fit the pieces together, craft strategies for new portfolios of energy use, and help decision-makers understand the policy and planning tools to meet future energy and environmental needs.

Admission Requirements

Two groups of students are served by this certificate program:

1. New students who wish to apply directly to the Energy, Technology and Society Graduate Certificate program.
2. Students currently matriculated in a USC master's or doctoral degree program.

Candidates for admission among the first group of students must have: (1) a B.A. or B.S. degree or its international equivalent; (2) a minimum 3.0 GPA (A = 4.0) calculated over the last 60 units of credit earned. Exceptions may be made in cases of very high GRE scores or some other compelling evidence of potential to excel in graduate studies (e.g., outstanding letters of recommendation).

Application Procedures

Applicants are required to submit the following documents: (1) completed online application for admission (www.usc.edu/admission/graduate); (2) statement of purpose; (3) official transcripts from all schools previously attended; (4) two letters of recommendation; and (5) results of the GRE General Test.

International students must submit TOEFL scores and are expected to achieve a minimum score of 600 on this exam. The statement of purpose should be uploaded into the online application. This letter should: (1) describe the student's motivation, field of interest and career goals; and (2) provide contact information, including address, phone number, email address and the primary academic unit (if the student is already enrolled at USC). Continuing students are not required to submit transcripts or GRE scores; these documents will be obtained electronically by the Office of Graduate Admissions from their original online graduate application. The letter of recommendation for continuing students must come from their primary academic advisor.

For more information, contact Natalie Kaylor, USC College Office of Advanced and Professional Programs, University of Southern California, Los Angeles, CA 90089-0355, kaylor@usc.edu, (213) 740-1384.

REQUIRED COURSES

One course from each of the following four categories (14 units of graduate work)

<i>Technology</i>		
AME 577	Survey of Energy and Power for a Sustainable Future	3
CHEM 510	Alternative Energy Technologies and Options	4

<i>Tools</i>		<i>Impacts and Solutions</i>						
ISE 576	Industrial Ecology: Technology-Environment Interaction	3	ARCH 519	Sustainability in the Environment: Infrastructure, Urban Landscapes, and Buildings	3	GEOL 525	The Science of Climate Change	4
ENST 530	Environmental Risk Analysis	4	ARCH 611	Advanced Building Systems Integration	4	PPD 692	Transportation and the Environment	4
						PPDE 632	Sustainable Cities	4
<i>Politics and Policy</i>								
POSC 545	Critical Issues in Politics and Policy	4						
POSC 546	Seminar in Environmental Policy	4						

