244A. Seminar in Theatrical Design: Ancient Worlds—Early 17th Century (4)
Seminar—2 hours; project—2 hours. Prerequisite: graduate standing. Group study while focusing primarily on one discipline: scenic, costume or lighting design. Periods covered: Greek, Medieval, Renaiss ance, Baroque, and 18th century, early 17th century. Design projects include script analysis, research of period style, fashion, character development, developing design concepts, presentation skills.

244B. Seminar in Theatrical Design: Mid 17th Century to 1789 (4)
Seminar—2 hours; project—2 hours. Prerequisite: graduate standing, course 224A or consent of instructor. Group study focusing primarily on one discipline: scenic, costume or lighting design. Periods covered: Cavalier Restoration 18th century opera and ballet, 19th century drama. Design projects include script analysis, research of period style, fashion, character development, developing design concepts, presentation skills.

244C. Seminar in Theatrical Design: the 20th Century (4)
Seminar—2 hours; project—2 hours. Prerequisite: graduate standing, course 224A and 224B or consent of instructor. Group study focusing primarily on one discipline: scenic, costume or lighting design. 20th century genres covered: Realism, Brecht, Musicals, Contemporary Dance, short narrative film. Design projects include script analysis, research of period style, fashion, character development, developing design concepts, presentation skills.

244D. Seminar in Theatrical Design: Contemporary Concepts (4)
Seminar—2 hours; project—2 hours. Prerequisite: graduate standing, course 224A, 224B, 224C, or consent of instructor. Group study focusing primarily on one discipline: scenic, costume or lighting design. Emphasis on contemporary design concepts for new works and classics: Shakespeare, modern dance, concept plays and musicals. Script and character analysis for design in performance, research, design projects.

244E. Seminar in Theatrical Design: Advanced Concepts (4)
Seminar—2 hours; project—2 hours. Prerequisite: graduate standing, course 224A, 224B, 224C, and 224D or consent of instructor. Group study focusing primarily on one discipline: scenic, costume or lighting design. Emphasis on special issues in contemporary design concepts for new works and classics. Script and character analysis for design in performance, research, design projects.

225. Performance Design Studio: Techniques and Media (2)
Studio—2 hours. Prerequisite: graduate standing; must be taken concurrently with course 224 series. Exploration and development of techniques and skills in the performance design process. Drafting, model building, drawing, painting and rendering, costume drawing, color theory, lighting techniques, design portfolio preparation and presentation. May be repeated up to five times for credit.

228. Seminar in Directing Theory: Non-Realism (4)
Seminar—3 hours; term paper. Modern directing theory as it applies to non-realistic theatre; development of directorial concepts for production of selected non-realistic plays—Greek to the present. May be repeated two times for credit. —I, II, III, (I, II, III)

229. Special Problems in Directing (4)
Seminar—2 hours; laboratory—2 hours; rehearsal—4 hours. Prerequisite: consent of instructor. Projects in directing scenes selected from plays from ancient Greece to the present. May be repeated two times for credit. —I, II, III, (I, II, III)

230. Advanced Problems in Choreography and Performance (2)
Laboratory/discussion—2 hours. Prerequisite: consent of instructor. Focus on contemporary issues of choreography and performance in depth and how these issues pertain to performance work. Focus will include contemporary thought on representation, legibility, new forms, and cultural attitudes. May be repeated six times for credit.

244. Critical Approaches to Traditional Systems of Body Movement (4)
Discussion/laboratory—6 hours; project; term paper. Introduction to traditional systems for body movement; development of approaches to them, and experiments in how they inform training and practice in theatre, dance, and performance. May be repeated five times for credit. Offered irregularly.

250. Modern Theatre (4)
Seminar—3 hours; term paper. The theatre of Europe and America, 1860-1940, with emphasis on the relationship of the dramas of the period to the physical circumstances under which they were produced.

251. Scoring and Scripting in Performance (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: graduate standing. The process of weaving together various performance elements brought into play by the artists in their respective disciplines. The “script” is the thread from which the artists’ “scores” will layer and transform the “script” into performance for specific time, place, spectators.

252. Performance: Concepts of Space, Place, and Time (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: graduate standing. Examination of systems of creating performance spaces, establishing a sense of place, and communicating the concept of time explored through collaborative interactive research. Research includes traditional principles, site-specific spaces and consideration of various types from music and movement.

253. Approaches to Collaboration (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: graduate standing. Historical and contemporary theories of creating stage identities. Discussion and project collaborations based on theories. Questions of identity related to ethnicity, gender or sexual orientation.

255. Composition in the Arts (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: graduate standing. Examination in a variety of media: theatre, dance, film, video, computer-based, looking at cultural, aesthetic, rhetorical and political theory. Offered in alternate years. May be repeated three times for credit when topic differs.

259. Topics in Contemporary Theatre and Performance (4)
Seminar—3 hours; term paper; project. Prerequisite: admission to any graduate program in the University. Preference will be given to students enrolled in the Designated Emphasis in Studies in Performance and Practice. Instruction is offered a variety of disciplines and research methods in Performance and Practice, with a focus on cross-disciplinary learning and research. Usually offered each quarter. May be repeated with different topical matter/instructor. Offered irregularly.

265A. Performance Studies: Modes of Production (4)
Seminar—3 hours; term paper; project. Introduces students to the literature of performance production in a variety of media: theatre, dance, film, video, computer-based, looking at cultural, aesthetic, rhetorical and political theory. Offered in alternate years. May be repeated three times for credit when topic differs.

265B. Performance Studies: Signification and the Body (4)
Seminar—3 hours; term paper; project. Introduces students to analysis of the body in performance, drawing on the theoretical and practical fields from several fields. Offered in alternate years. May be repeated three times for credit when topic differs.

265C. Performance Studies: Performance and Society (4)
Seminar—3 hours; term paper; project. Introduces students to the role of performance (broadly defined), in everyday life, sociopolitical negotiation, identity, social movements, the media, and the state. Offered in alternate years. May be repeated three times for credit when topic differs.

250. Modern Theatre (4)
Seminar—3 hours; term paper; project. May be repeated two times for credit. —II, III, (I, II, III)

298. Group Study (1-5)
Prerequisite: consent of instructor.

299. Individual Study (1-12)
(S/U grading only.)

299D. Dissertation Research (1-12)
(S/U grading only)

Professional

396. Teaching Assistant Training Practicum (1-12)
Prerequisite: graduate standing. May be repeated for credit. —I, II, III, (I, II, III)

413. Stage Make-up (1)
Lecture/laboratory—2 hours. Prerequisite: consent of instructor. Approved for graduate degree credit. Lectures, demonstrations, and practical work in aspects of theatrical makeup.

Transportation Technology and Policy (A Graduate Group)

John Harvey, Ph.D., Chairperson of the Group
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530-752-0247; http://www.its.ucdavis.edu

Faculty
Ralph C. Aldredge, III, Ph.D., Professor
(Mechanical and Aerospace Engineering)
Transportation Technology and Policy (A Graduate Program)

Gwen Arnold, Ph.D., Assistant Professor (Environmental Science and Policy)
Allan Berry, Ph.D., Professor (Environmental Agriculture)
David Bunch, Ph.D., Professor (Graduate School of Management)
Paul Erickson, Ph.D., Professor (Mechanical and Aerospace Engineering)
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Susan Handy, Ph.D., Professor (Environmental Science and Policy)
John T. Harvey, Ph.D., Professor (Civil and Environmental Engineering)
Bryan Jenkins, Ph.D., Professor (Biological and Agricultural Engineering)
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Joan Ogden, Ph.D., Professor (Environmental Science and Policy)
Ahmet Palazzoglu, Ph.D., Professor (Chemical and Materials Science Engineering)
David Rapson, Ph.D., Assistant Professor (Economics)
Simone Saenz, Ph.D., Professor (Design)
Nesrin Sarikul-Klijn, Ph.D., Professor (Mechanical and Aerospace Engineering)
Daniel Sperling, Ph.D., Professor (Civil and Environmental Engineering, Environmental Science and Policy)
Pieter Stroeve, Sc.D., Professor (Chemical Engineering and Materials Science)
Steven Velinsky, Ph.D., Professor (Mechanical and Aerospace Engineering)
Stephen M. Wheeler, Ph.D., Associate Professor (Landscape Architecture)
James Willen, Ph.D., Professor (Agricultural and Resource Economics) Distinguished Graduate Mentoring Award
Michael Zhang, Ph.D., Professor (Civil and Environmental Engineering)

Emeriti Faculty
Thomas Cahill, Ph.D., Professor Emeritus (Atmospheric Science and Physics)
Dan Chang, Ph.D., Professor Emeritus (Civil and Environmental Engineering)
Harry Dwyer, Ph.D., Professor Emeritus (Mechanical and Aerospace Engineering)
Mark Francis, M.L.A., Professor (Landscape Architecture)
Andrew A. Frank, Ph.D., Professor Emeritus (Mechanical and Aerospace Engineering)
Robert Johnston, Ph.D., Professor Emeritus (Environmental Science and Policy)
Patricia L. Mokhtarian, Ph.D., Professor Emeritus (Civil and Environmental Engineering)

Affiliated Faculty
Rahman Azhari, Ph.D., Lecturer (Statistics)
Andrew F. Burke, Ph.D., Research Engineer (Institute of Transportation Studies)
Steven S. Cliff, Ph.D., Research Engineer (Applied Sciences)
Mark A. Delucchi, Ph.D., Research Ecologist (Institute of Transportation Studies)
Kenneth S. Kurani, Ph.D., Research Engineer (Institute of Transportation Studies)
Alan Meier, Ph.D., Professional Researcher (Institute of Transportation Studies)
Deborah Salom, Ph.D., Research Scientist (Institute of Transportation Studies)
Marshall Miller, Ph.D., Associate Engineer (Institute of Transportation Studies)
Thomas Turrentine, Ph.D., Research Anthropologist (Institute of Transportation Studies)
Christopher Yang, Ph.D., Research Scientist (Institute of Transportation Studies)
Sonia Yeh, Ph.D., Research Scientist (Institute of Transportation Studies)

Graduate Study
The Graduate Group in Transportation Technology and Policy offers the M.S. (Plan I—thesis, and Plan II—exam), and Ph.D. degrees in two areas of specialization: Transportation Technology, and Transportation Planning and Policy. The technology track is for students trained in engineering and the physical sciences and interested in systems-level planning, analysis, management and design of advanced technologies (emphasizing vehicle propulsion and "intelligent transportation system" technologies) focusing on energy and environmental issues. The planning and policy track is aimed at students from a wider range of disciplines interested in the broader public policy issues concerning transportation systems. The curriculum for both tracks includes coursework in transportation, environmental engineering, economics, policy sciences, statistics, travel behavior, management, technology assessment and environmental studies.

Preparation
Applicants will normally be expected to have completed two courses in calculus, one course in linear algebra, and one course each in calculus level statistics and microeconomics. Additionally, students entering the technology track will need either to have an appropriate technical background or make up a relatively large number of prerequisite courses in order to be able to take the approved courses in that track.

Program of Study
Students will have the option of following either a technology or policy/management track. M.S. students complete 6 core courses plus electives. Ph.D. students take 7 courses from the same core, 3 additional courses from their chosen track, one master's-level elective, plus electives. Master's degrees require a minimum of 36 quarter units and doctoral degrees require a minimum of 54 quarter units. M.S. Plan I students may replace up to 6 quarter units with research (course 299) units. At least two thirds of all credits must be at the graduate level.

Graduate Advisers
Yuehue Fan and Alissa Kendall

Curriculum
Core Courses
Students in each track are required to take courses in a common set of core competencies, in addition to the areas of specialization included in the track.

Knowledge areas core courses: M.S. and Ph.D. students take Transportation Technology (ITP 210), Transportation Policy (ECE 252 or ITP 220), and Transportation Systems (ECE 251).

Skill areas core courses: M.S. and Ph.D. students take one in the area of Research Design from the following: Transportation Survey Methods (ITP 200), Research Methods in Environmental Policy (ESP 242), or Survey and Questionnaire Research Methods (PSY 204). Design and Analysis of Engineering Experiments (EBS 265), Experimental Design and Analysis (PLS 205), Engineering Experimentation and Uncertainty Analysis (MAE 207), or Statistical Methods for Research (STA 205).

Natural Resource Economics (ARE 175)
Environmental Economics (ARE 176)
Microeconomic Analysis (ARE 204)
Economic Analysis of Resource and Environmental Policies (ARE 275)
Environmental Policy Studies (ARE 276)
Infrastructure Economics (ECE 268), Energy Economics (125)

Natural Resource Economics (ARE 175)
Environmental Economics (ARE 176)
Microeconomic Analysis (ARE 204)
Economic Analysis of Resource and Environmental Policies (ARE 275)

Environmental Economics (ARE 276), or Infrastructure Economics (ECE 268), Energy Economics (125)

Integration and Breadth core courses: M.S. and Ph.D. students take ITS Seminars (ITP 281), Transportation Orientation Seminar (ITP 282), and Research (ITP 299).

Planning and Policy Courses
Approved courses in this area include the following; additional courses may be added upon approval by the Chairperson:

Agricultural and Resource Economics, 100B, 130, 136, 144, 175, 176, 204, 275, 276 Anthropology 104N, 127, 211, 222 Civil and Environmental Engineering, 165, 244A, 252, 258, 268, 269 Civil and Environmental Engineering/ Environmental Science and Policy 163, 289A Communication 170


Technology Courses
Approved courses in this area include the following; additional courses may be added upon approval by the Chairperson:


Other Courses
Approved courses in this area include the following; additional courses may be added upon approval by the Chairperson:

Transportation Technology and Policy 200
COURSES IN TRANSPORTATION TECHNOLOGY AND POLICY (TPP)

Graduate

200. TRANSPORTATION SURVEY METHODS (4)
Lecture—2 hours. Prerequisite: Statistics 13, Civil and Environmental Engineering 251 recommended. Description of types of surveys commonly used in transportation demand modeling, including travel and activity diaries, attitudinal, panel, computer, and stated-response surveys. Discussion of sampling, experimental design, and survey design issues. Analysis methods, including factor, discriminant and experimental design, and survey design issues. Not open for credit to students who have taken Civil and Environmental Engineering 255. (Same course as Geography 287.)—II. (III.)

210. FUNDAMENTALS OF TRANSPORTATION TECHNOLOGY (4)
Lecture—2 hours. Prerequisite: consent of instructor; Mathematics 21A, 21B, 22A; graduate or junior/senior undergraduate as a technical elective. Limited enrollment. Not open for credit to students who have completed Transportation Technology and Policy and Fundamentals of Transportation Technology 289. (Former course Transportation Technology and Policy; Fundamentals of Transportation Technology 289.)—II. (III.)

220. TRANSPORTATION PLANNING AND POLICY (4)
Lecture/discussion—4 hours. Limited enrollment. Transportation planning process at the regional level, including the role of federal policy in shaping regional transportation planning, tools and techniques used in regional transportation planning, issues facing regional transportation planning agencies, pros and cons of potential solutions and strategies. Students having taken this course previously as course 289 cannot repeat it for credit, having taken other course 289 offerings does not preclude taking this course for credit. (Same course as Geography 236.) Offered in alternate years.—II. (III.)

281. ITS TRANSPORTATION SEMINAR SERIES (1)
Seminar—1.5 hours. Transportation seminars by guest speakers, on varied topics. May be repeated for credit. (S/U grading only.)—II. (III.) (I, II, III.)

282. TRANSPORTATION ORIENTATION SEMINAR (1)
Seminar—1 hour. Ten weeks of seminars, introducing various topics in transportation research and education, focusing on topics of particular interest at UC Davis. May be repeated for credit. (S/U grading only.)—I. (II.)

283. PROFESSIONALISM, LEADERSHIP, AND ETHICS (1)
Seminar—2 hours. Speakers from industry, government, academia, and NGOs will lead discussions about succeeding and performing in the professional world. They will address leadership, ethics, and other workplace issues. May be repeated for credit. (S/U grading only.)—II. (III.) (I, II, III.)

289A. SELECTED TOPICS IN TRANSPORTATION TECHNOLOGY AND POLICY (1-5)
Lecture and/or laboratory. Prerequisite: consent of instructor. Directed group study of special topics with instruction carried out through lecture or laboratory, or a combination of both. May be repeated for credit.—I, II, III. (I, II, III.)

289B. SELECTED TOPICS IN TRANSPORTATION TECHNOLOGY AND POLICY (1-5)
Lecture and/or laboratory. Prerequisite: consent of instructor. Directed group study of special topics with instruction carried out by lecture or laboratory, or a combination of both. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.)

290C. GRADUATE RESEARCH GROUP CONFERENCE (1)
Discussion—1 hour. Prerequisite: consent of instructor. Research problems, progress, and techniques in transportation. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.)

292. INTRINSICS IN TRANSPORTATION TECHNOLOGY (1-5)
Prerequisite: second year standing; approval of project prior to period of internship. Supervised work experience in transportation studies. May be repeated for credit. Topic differs. (S/U grading only.)—I, II, III. (I, II, III.)

298. GROUP STUDY (1-5)
Discussion—1-5 hours. Prerequisite: consent of instructor. (S/U grading only.)

299. RESEARCH (1-12)
Discussion—1-12 hours. Prerequisite: consent of instructor. (S/U grading only.)

PROFESSIONAL

396. TEACHING ASSISTANT TRAINING PRACTICUM (1-4)
Prerequisite: graduate standing. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.)

UC DAVIS STUDY ABROAD

Aliki Dragou, Ph.D., Fadi Fatallahsh, Ph.D., Faculty Directors
UC Davis Study Abroad
207 Third Street, Suite 130
530-297-4633; Fax 530-297-4695;
studyabroad@ucdavis.edu;
http://studyabroad.ucdavis.edu/
The opportunity to study abroad is one of the richest educational experiences a student can have. When students return from study abroad in places like Italy or Hong Kong, they describe their time abroad as an experience that changed their lives. Students study abroad to see the world, to study a academic interests in a global context, to learn a language, to prepare for a job in the global economy and to add distinction to an application for graduate or professional school.

UC Davis Study Abroad can help students decide which program is best for them, whether to study abroad for a summer, quarter, semester or full year and when to go abroad (freshman through senior years). UC Davis Study Abroad Coordinators also participate in freshman seminars, offer financial aid workshops and can advise on programs that have internship opportunities. UC Davis Study Abroad also administrers the Global and International Studies (GIS) minor, which is sponsored by the Humanities Program in the College of Letters and Science.

UC Davis Study Abroad is home to UC Davis Quarter Abroad, UC Davis Summer Abroad, UC Davis Seminars Abroad and the University of California Education Abroad Program (UCEAP). UC Davis Study Abroad also provides advising for students interested in non-UC programs and administers the Non-UC Study Abroad leave program. Finally, UC Davis Study Abroad advises and provides student services for international UCEAP degree students.

UC EDUCATION ABROAD PROGRAM (UCEAP)
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http://studyabroad.ucdavis.edu/programs/uceap/
The UC Education Abroad Program (UCEAP) is one of the premier study abroad programs in the nation. UCEAP offers international study programs in association with nearly 140 host universities and institutions in some 32 countries around the world. Participating students remain registered at UC while studying abroad and receive full academic credit for their work. UCEAP students maintain their financial aid and scholarship eligibility while abroad. UCEAP has study abroad opportunities for undergraduates at all class levels as well as for qualified graduate students who have completed at least one full year of graduate work and have the support of their graduate program and advisor. UCEAP offers year, semester, quarter, and summer programs for all majors. Over 50% of the programs are offered in English, while several programs allow students to learn a language while experiencing the culture first hand. Some programs include the possibility of internships or field research. In most cases, students attend courses taught by the faculty of the host institution.

UC faculty members serve as directors at most Study Centers abroad, providing in-country academic advising to students during their program. Full UC credit is granted for courses satisfactorily completed, and courses and grades are recorded on official UC transcripts. With careful planning, most UCEAP students make normal progress toward their UC degrees, even those students who study abroad for a full year. With approval of their major or college advisers, students may earn credit towards their major, minor and general education requirements.

GRADUATION REQUIREMENTS. II prospective applicants, particularly students who intend to study abroad during their senior year, should carefully plan their course programs for Davis and abroad in order to satisfy university, college, and major/minor requirements for their degree.

Although units and grade points earned while studying abroad through UCEAP are incorporated into the University transcript and GPA, departments and majors retain the right to determine which UCEAP courses will be accepted in satisfaction of major and minor requirements.

All degree candidates must meet the University residency requirement. Recognizing the special value of study abroad, the faculty have approved two exceptions to the usual residence requirement for students participating in the Education Abroad Program:

• Students planning to graduate immediately upon completion of their UCEAP program may satisfy the University residence requirement by completing at least 35 of their final 45 units on the Davis campus preceding entry into the EAP,

• Students who have not finished all of their degree requirements following completion of their UCEAP program may satisfy the University residence requirement by completing at least 35 units, including at least 12 units after returning from UCEAP, on the Davis campus within the final 90 units earned towards their degree. With this option, as many as 55 units taken abroad may be applied toward the unit requirement for graduation.

Students should consult with their college Dean’s office early during the UCEAP planning process for information on the university residence requirement. Students may satisfy GE requirements while on UCEAP, but should consult with the Education Abroad Center UC Davis Study Abroad and their college Dean’s office prior to departure for information on the certification process. Students may participate in UCEAP provided that (1) they will not exceed 225 units prior to their departure and (2) that all their degree requirements have been fulfilled either before leaving campus or during their time on UCEAP study abroad program.

Participants may only return to campus from UCEAP to complete any outstanding degree requirements provided that they can do so within 55 units. Participants in programs that conclude in May or June who satisfy all degree requirements while