

# TRANSPORTATION TECHNOLOGY & POLICY (TTP)

## Graduate Studies

### **TTP 200 – Transportation Survey Methods (4 units)**

*Course Description:* 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 cluster analysis.

*Prerequisite(s):* STA 013 or STA 013Y; ECI 251 recommended.

*Learning Activities:* Lecture 4 hour(s).

*Credit Limitation(s):* Not open for credit to students who have taken ECI 255.

*Cross Listing:* GEO 281.

*Grade Mode:* Letter.

### **TTP 201 – Applied Data Analysis (4 units)**

This version has ended; see updated course, below.

*Course Description:* Skills for examining, parsing, and analyzing datasets to answer research questions. Application of concepts from econometrics, statistics, and machine learning.

*Prerequisite(s):* STA 108, STA 141A, and STA 141B recommended.

*Learning Activities:* Lecture 4 hour(s).

*Grade Mode:* Letter.

### **TTP 201 – Applied Data Analysis (4 units)**

*Course Description:* Data exploration and integrity; data collection and cleaning techniques; examination of data types, handling missing data and outliers. Coverage of analytical regression techniques encompasses parametric (OLS), semi-parametric (logistic), and non-parametric (GLM, kernel regressions) models. Application of techniques on diverse real-world datasets using various software tools.

*Prerequisite(s):* STA 108, STA 141A, and STA 141B recommended.

*Learning Activities:* Lecture 4 hour(s).

*Cross Listing:* ECI 254.

*Grade Mode:* Letter.

This course version is effective from, and including: Spring Semester 2026.

### **TTP 202 – Discrete Choice Modeling in Transportation (4 units)**

*Course Description:* Theory and practical aspects of modeling individual choice behavior, including behavioral theory, data requirements, model formulation, statistical estimation and testing, interpretations, and prediction/forecasting for applications in transportation.

*Prerequisite(s):* STA 108.

*Learning Activities:* Lecture/Discussion 4 hour(s).

*Grade Mode:* Letter.

### **TTP 210 – Fundamentals of Transportation Technology (4 units)**

*Course Description:* Designed to prepare in the basics of thermodynamics, fluid mechanics and heat transfer as they relate to transportation.

*Prerequisite(s):* MAT 021A; MAT 021B; MAT 022A; and consent of instructor; graduate or junior/senior undergraduate as a technical elective.

*Learning Activities:* Lecture 2 hour(s), Discussion 2 hour(s).

*Enrollment Restriction(s):* Limited enrollment.

*Credit Limitation(s):* Not open for credit to students who have completed TTP 289. (Former TTP 289.)

*Grade Mode:* Letter.

### **TTP 211 – Energy & Transportation Modeling for Policy Analysis (4 units)**

*Course Description:* Development of energy and transportation models for policy analysis. Methods for modeling transportation, electricity, fuels, resources, and infrastructure systems.

*Learning Activities:* Lecture 4 hour(s).

*Grade Mode:* Letter.

### **TTP 220 – Transportation Planning & Policy (4 units)**

*Course Description:* 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.

*Learning Activities:* Lecture/Discussion 4 hour(s).

*Enrollment Restriction(s):* Limited enrollment.

*Credit Limitation(s):* Students having taken this course previously as TTP 289 cannot repeat it for credit; having taken other TTP 289 offerings does not preclude taking this course for credit.

*Cross Listing:* GEO 236.

*Grade Mode:* Letter.

### **TTP 221 – Pavement for Managers (3 units)**

*Course Description:* Concepts and knowledge needed by policy-makers, planners, and managers to understand pavements, including all urban hardscapes. Materials production, design, construction, maintenance and rehabilitation, use, and end-of-life. Implications for costs, environmental impacts, and societal impacts. Communicating pavement issues with decision-makers and the public.

*Learning Activities:* Lecture/Discussion 2 hour(s).

*Grade Mode:* Letter.

### **TTP 223 – Behavioral Theories & Applications (4 units)**

*Course Description:* Theoretical approaches for research in transportation and behavioral outcomes. Application of behavior theories to research question and hypothesis formulation, study design, data collection and planned analysis in travel behavior.

*Learning Activities:* Lecture 4 hour(s).

*Enrollment Restriction(s):* Restricted to graduate students.

*Grade Mode:* Letter.

**TTP 224 – Transportation Equity & Justice (4 units)**

*Course Description:* Topics in transportation equity and justice. Theories of mobility justice, review of historical planning and policy, evaluation of equity analyses, and investigation of equity across mode and domain specific topics in transportation.

*Learning Activities:* Lecture/Discussion 4 hour(s).

*Enrollment Restriction(s):* Restricted to upper division and graduate students.

*Grade Mode:* Letter.

**TTP 225 – Bicycle & Pedestrian Planning & Design (4 units)**

*Course Description:* Principles of bicycle and pedestrian planning and design. Safety, behavior, and performance metrics in planning and design. City-scale planning in the US in the context of regional, state, and national policy. Lessons learned from outside the US. Weekend field trips are required.

*Learning Activities:* Lecture/Discussion 4 hour(s).

*Enrollment Restriction(s):* Restricted to graduate standing or consent of instructor.

*Grade Mode:* Letter.

**TTP 281 – ITS Transportation Seminar Series (1 unit)**

*Course Description:* Transportation seminars by guest speakers, on varied topics.

*Learning Activities:* Seminar 1.50 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 282 – Transportation Orientation Seminar (1 unit)**

*Course Description:* Ten weeks of seminars, introducing various topics in transportation research and education, focusing on topics of particular interest at UC Davis.

*Learning Activities:* Seminar 1 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 283 – Professionalism, Leadership, & Ethics (1 unit)**

*Course Description:* 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.

*Learning Activities:* Seminar 2 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 284 – Dissertation Proposal Workshop (2 units)**

*Course Description:* Steps to completing a dissertation proposal. Review of research design concepts. Criteria for measurement, internal, and external validity.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Lecture/Discussion 2 hour(s).

*Enrollment Restriction(s):* Restricted to Transportation Technology & Policy graduate students or consent of instructor.

*Grade Mode:* S/U only.

**TTP 289A – Selected Topics in Transportation Technology & Policy (1-5 units)**

*Course Description:* Directed group study of special topics with instruction carried out through lecture or laboratory, or a combination of both.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Lecture, Laboratory.

*Repeat Credit:* May be repeated.

*Grade Mode:* Letter.

**TTP 289B – Selected Topics in Transportation Technology & Policy (1-5 units)**

*Course Description:* Directed group study of special topics with instruction carried out lecture or laboratory, or a combination of both.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Lecture, Laboratory.

*Repeat Credit:* May be repeated.

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 290C – Graduate Research Group Conference (1 unit)**

*Course Description:* Research problems, progress, and techniques in transportation.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Discussion 1 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 292 – Internship in TTP (1-5 units)**

*Course Description:* Supervised work experience in transportation studies.

*Prerequisite(s):* Consent of instructor; second year standing; approval of project prior to period of internship.

*Learning Activities:* Internship.

*Repeat Credit:* May be repeated when topic differs.

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 298 – Group Study (1-5 units)**

*Course Description:* Group study.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Discussion 1-5 hour(s).

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 299 – Research (1-12 units)**

*Course Description:* Research.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Discussion 1-12 hour(s).

*Grade Mode:* Satisfactory/Unsatisfactory only.

**TTP 396 – Teaching Assistant Training Practicum (1-4 units)**

*Course Description:* Teaching assistant training practicum.

*Prerequisite(s):* Graduate standing.

*Learning Activities:* Variable.

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.