

Course Number	CEE 510/610
Title	TRAVEL SURVEY DATA AND ANALYSIS
Section	004
CRN(s)	64186
Credits	4
Prerequisite(s)	N/A
Days/Time	TUESDAYS 9:00AM – 12:50PM
Location	ITS LAB, 315A ENG BLDG
Final Exam Day/Time	

Course Website	http://kellyjclifton.com
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Instructor	Dr. Kelly J Clifton
Office	301E EB
Phone	503/725-2871
E-mail	kclifton@pdx.edu
Office Hours	by appointment
Mailbox Location	CEE Office, EB 200 Suite

Required Text or Other Materials:

Peter Stopher. 2012. *Collecting, Managing, and Assessing Data Using Sample Surveys*, Cambridge: Cambridge University Press. This is an e-book available from the Portland State University Library.

TSM: Travel Survey Methods Wiki: <http://www.travelsurveymethods.org/>

NCHRP: Stopher et al. 2008. NCHRP Report 571: Standardized Procedures for Personal Travel Surveys. Transportation Research Board, Washington, DC.

All readings and course materials will be available on the course website.

Catalog Course Description: This course focuses on the design, administration and analysis of various types of surveys used to collect transportation data, including but not limited to household travel surveys, establishment surveys, intercept surveys, and freight/commercial vehicle surveys.

Course Objectives:

Students must demonstrate the ability to:

- Understand the various survey techniques appropriate for collecting transportation data
- Develop a transportation survey, including sampling, instrument design, and administration
- Analyze travel survey data

Course Requirements:

Class Participation (10%)

Students are expected to actively engage in this course. This includes regular attendance, asking questions, providing examples and commentary, and contributing to the intellectual environment of the classroom. “Satisfactory” participation means that you attend class regularly, pay attention, and ask questions. “Excellent” class participation means that you make an original contribution, such as sharing examples that relate to the topics covered in class and expanding the discussion.

Project Memos (3 x 20%)

There will be a project assignment this term, group size and number of projects will depend upon the number of students enrolled. Each project will require the group to: a) design a survey instrument, sampling approach and administration technique; b) collect data; and c) provide statistical and/or qualitative analysis of these data. Each of these parts of the project is worth 20% of the total grade. Each of these requires a technical memo to be submitted that outlines the design, assessment of data collection and results, where appropriate.

Project Presentation (10%)

Students will present a brief overview of their projects, including highlights from the three project memos.

Final Project Report (20%)

The three project memos will synthesize the three project memos. In addition, the final report will also include a review of the relevant literature, a discussion of the limitations of the research design, and the conclusions that can be drawn from the analysis. The format is based upon papers for the Transportation Research Board conference, which is on the order of 7,500 words.

Late policy: Unless prior arrangements have been made, assignments submitted after the due date will receive an 8% deduction per day late on the assignment grade.

Plagiarism will not be tolerated. All work must be original; else, contributions from other authors/contributors must be appropriately cited. Consult appropriate writing guides should you have doubts about appropriate referencing or writing methods.

Incompletes: A grade of “I” is granted by the instructor *only* with prior approval and consent. Criteria are outlined in the PSU Bulletin.

Program requirements: {for UG courses} The CEE Department requires that junior and senior engineering courses must be completed with a minimum grade of C-, and a student’s cumulative PSU GPA must be 2.33 or higher to graduate from the BSCE program.

Tentative Schedule

	Date	Topic	Readings	
1	02-Apr-13	Introduction	TSM 1	
		Travel Survey Process	TSM 2, NCHRP 1	
		Travel Survey Options	TSM 3	
		Basic Issues in Surveys	Stopher 3	
		Ethics of Surveys of Human Populations	Stopher 4	
		Basic Statistics and Probability	Stopher 2	
2	09-Apr-13	Household and Activity Travel Surveys	TSM 8 - 11, NCHRP 2	
		Household Travel Surveys	TSM 12-14, NCHRP 4	
		Vehicle Intercept	TSM 15	
		Transit On-Board Surveys	TSM 16	
		Commercial Vehicle Surveys	TSM 17	
		Establishment and Workplace Surveys	TSM 18	
		Visitor Surveys	TSM 19	
		Parking Surveys	TSM 20	
3	16-Apr-13	Designing a Survey	Stopher 5	
		Methods for Conducting Surveys of Human Populations	Stopher 6	
		Design of Survey Instruments	Stopher 8	
		Design of Questions and Question Wording	Stopher 9	
		Design of Data Collection Procedures	Stopher 11	
		Pilot Survey and Pre-Tests	Stopher 12	
4	23-Apr-13	Sampling	TSM 6	
		Sample Design and Sampling	Stopher 13	
		Repetitive Surveys	Stopher 14	
		Survey Economics	Stopher 15 (optional)	
		Costs of Surveys	TMS 25 (optional)	
5	30-Apr-13	Survey Implementation	Stopher 16	
		Web Based Surveys	Stopher 17	
		Coding and Data Entry	Stopher 18	
		Data Expansion and Weighting	Stopher 19	
6	07-May-13	Non-response	Stopher 20	
		Measuring Data Quality	Stopher 21	
		Documenting and Archiving	Stopher 23	
7	14-May-13	Stated Response Surveys	TSM 21	
		Panel Surveys	TSM 22	
		Activity and Time Use Surveys	NCHRP 4	
8	21-May-13	Qualitative Methods	TSM 24	
		Focus Groups	Stopher 7	
9	28-May-13	GPS Surveys	TSM 23, NCHRP	
		Smart Phone Applications	NCHRP 4	
		Future Directions in Survey Procedures	Stopher 22	
		Social Media, new techniques		
10	04-Jun-13	Wrap Up	Student Presentations	
11	11-Jun-13	Finals Week	Final Project Reports	

Computer and E-mail Accounts

- If you haven't done so already, please go to the CadLab located in EB 325 to activate your engineering account. If you need help in using this account, please see the attendant or send an e-mail to support@cecs.pdx.edu
- If you choose not to check your CECS e-mail account regularly (yourname@cecs.pdx.edu) then please forward it to an e-mail account that you do check. Important information and announcements are delivered via this e-mail address.

Code of Conduct

The PSU Student Conduct Code prohibits all forms of academic cheating, fraud, and dishonesty. Further details can be found in the PSU Bulletin. Allegations of academic dishonesty may be addressed by the instructor, and/or may be referred to the Office of Student Affairs for action. Acts of academic dishonesty may result in a failing grade on the exam or assignment for which the dishonesty occurred, disciplinary probation, suspension or dismissal from the University. The students and the instructor will work together to establish optimal conditions for honorable academic work. Questions about academic honesty may be directed to the Office of Student Affairs: <http://www.ess.pdx.edu/osa/>.

Classroom Rules and Behavior Expectations

The classroom is a professional space and professional conduct is expected. Please silence your cell phone and refrain from text messaging during class and exam times. Treat your fellow students and the instructor with respect and please use appropriate language at all times. Additional rules may be added at the instructor's discretion.

Ethics and Professionalism

As future professional engineers you should plan to take the FE Exam (see the Oregon State Board of Examiners for Engineering and Land Surveying at www.osbeels.org), and you should be familiar with the ASCE Code of Ethics (www.asce.org/inside/codeofethics.cfm), which includes the following:

Engineers shall act in such a manner as to uphold and enhance the honor, integrity and dignity of the engineering profession.

Campus Resources

As a PSU student, you have numerous resources at your disposal. Please take advantage of them while you are here. A small sample is listed below:

- CEE Website: <http://www.cee.pdx.edu>
- Career Center: <http://www.career.pdx.edu/>
- Center for Student Health & Counseling: <http://www.shac.pdx.edu/>
- The Writing Center: <http://www.writingcenter.pdx.edu/>
- PSU Disability Resource Center: 435 SMU - The PSU Disability Resource Center is available to help students with academic accommodations. If you are a student who has need for test-taking, note-taking or other assistance, please visit the DRC and notify the instructor at the beginning of the term.

Student Groups and Professional Organizations

Participation in student and professional groups can be a valuable part of your education experience. Membership gives students opportunities to get to know fellow students better, meet and network with professionals, collaborate in solving real engineering problems, learn about internship or job possibilities, socialize and have fun. Consider becoming active with a student organization, such as the following:

- American Society of Civil Engineers Student Group (ASCE): <http://www.asce.pdx.edu>
- Institute of Transportation Engineers Student Chapter (ITE): <http://www.its.pdx.edu/ite/>

Most professional organizations have monthly meetings and encourage student participation by providing discounts for lunch and dinner meetings. These meetings provide opportunities to network with potential future employers, learn about scholarships, and increase your technical knowledge. Take a look at these organizations as a starting point:

- American Society of Civil Engineers (ASCE) Oregon Section: www.asceor.org
- Institute of Transportation Engineers (ITE) Oregon Section: www.oregonite.org
- Society of Women Engineers (SWE) Columbia River Section - <http://www.swe-columbia-river.org>
- Structural Engineers Association of Oregon (SEAO): www.seao.org

Library and Literature Research

With the advent of the Internet it is very tempting to think that all necessary resources for a term project will be available in full text after typing in a few words at Google.com. This is not the case. You will often need to go to the library, use real library search tools and access real books and articles contained in refereed/archival journals.

Be sure to make use of the Vikat library catalog accessed via the PSU library home page at <http://www.lib.pdx.edu/>. Also available on the library home page are Full Text Electronic Journals and a list of on-line Databases. Databases to try are EI Compendex (<http://www.ci.org/cv2/cv2.home>) and Lexis-Nexis. Note that access to these databases is free for PSU students, but you must be using a computer on campus or via a dial-in service. See <http://www.lib.pdx.edu/services/distance/proxyserver.html> for instructions on how to gain off-campus access using a proxy server.

Campus Safety

The University considers student safety paramount. The Campus Public Safety Office is open 24 hours a day to assist with personal safety, crime prevention and security escort services. Call 503-725-4407 for more information.

For Campus emergencies call 503-725-4404.