

UNIVERSITY OF WISCONSIN - MADISON  
Department of Urban and Regional Planning  
Old Music Hall, 925 Bascom Mall  
Madison, WI 53706  
(608) 262-1004

**URPL 721, Methods of Planning Analysis**  
3 credits; Fall, 1997

Instructors: Professor David Marcouiller  
106 Old Music Hall; 262-2998  
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Mary Edwards, Teaching Asst.  
B 11 Old Music Hall; 265-3132  
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Scheduled meeting time and location:

Lecture:	Section I Mondays and Wednesdays 8:30 - 9:45 a.m.; Rm. 208, MH	Section II Mondays and Wednesdays 1:00 - 2:15 p.m.; Rm. 208 MH
Discussion:	# 301 - Fridays 8:30 - 9:45 a.m.	# 302 - Fridays 1:00 - 2:15 p.m.

Office hours:

Generally, we have an open door policy. However, given other commitments, it is important to set the following as URPL 721 office hours when you can expect us to be found in our offices:

Dave (106 Old Music Hall)  
Tuesday: 1:00 - 2:30 pm

Mary (B 11 Old Music Hall)  
Friday: 10:00 am - 12:00 pm

Course objectives, intent, and structure:

The course is designed to familiarize the student with the collection and statistical analysis of data for planning purposes. The intent of the course is to provide opportunity for the definition, conceptualization, design and implementation of research and analysis, with emphasis on the latter. The planning methods covered are generally applicable to planning problems in more than one field and are considered basic tools for most planning analyses.

The course consists of three sections that include (1) research design and basic statistical methods, (2) multivariate regression analysis, and (3) basic demographic and economic analysis techniques. Three individual problem sets and two group projects assist learning through practical applications of the material being presented. In addition, practice problems are assigned as necessary for discussion in class, although this work is not graded.

Discussion sections will be held each Friday in the Social Science Microcomputer Lab. Departmental computers in Room B8 of Old Music Hall are also available to members of the URPL computer

cooperative. The purchase and use of computer discs are the student's responsibility.

Course requirements

Students will be evaluated based on three course components using the following weights:

Examinations	50 percent
Individual Problem Sets	30 percent
Group Projects	20 percent

**\* Examinations (50 percent of course grade):**

There will be three examinations scheduled during the semester. Each exam will focus on the topics listed below and be equally weighted. Examinations are open book and are meant as individual learning tools.

<u>Exam #</u>	<u>Topics included:</u>	<u>Date</u>
1	Research design, descriptive & inferential statistics, linear regression	Oct. 13
2	Multivariate regression	Nov. 5
3	Demographics, community economics, qualitative research design	Dec. 15

**\* Individual problem sets (30 percent of course grade):**

Individual problem sets will assist students in learning basic course concepts and applications. They will also serve as good examination study aides. Their topical focus, distribution date and due date are listed below. Once again, individual problem sets are meant to be done by the individual.

<u>PS #</u>	<u>Topic</u>	<u>Date distributed</u>	<u>Date DUE</u>
1	Simple linear regression	Sept. 24	Oct. 6
2	Multivariate regression	Oct. 20	Oct 31
3	Community economic analysis	Dec. 1	Dec. 8

**\* Group projects (20 percent of course grade):**

Groups projects are intended to serve as both individual learning tools and as a means to develop interpersonal interaction skills within a policy analysis context. Two group projects, their topical focus, date distributed, and due date are listed below. Each group member is expected to contribute equally to the final group report.

<u>GP #</u>	<u>Topic</u>	<u>Date distributed</u>	<u>Date DUE</u>
I	Descriptive statistics and research design	Sept. 10	Sept. 24
II	Multivariate regression	Oct. 15	Oct. 29

Reading materials

Required: Welch, Susan and John Comer 1988. Quantitative Methods for Public Administration. Chicago, IL; The Dorsey Press, Second Edition. (available from University Bookstore for \$34.25)

Supplemental: Klosterman, Richard E. 1990. Community Analysis and Planning Techniques. Savage, MD; Rowman and Littlefield Publishers, Inc. (available from University

Bookstores for \$22.95)

Patton, Carl V. and David S. Sawicki 1993. Basic Methods of Policy Analysis and Planning (second edition). Englewood, NJ; Prentice Hall. (available from University Bookstore for \$46.50)

### Course Grading

The overall grade for the course is determined by student performance on course requirements (applying the weighting scheme described above) using the following guide:

A	90 % and above
B	75 % and above
C	60 % and above

Grades will be assessed using 60, 75, and 90 percent of total weighted scores representing A, B, and C respectively. The AB and BC grades will only be used to help raise B and C grades. Work that attains 90 percent of total will be graded as A.

Course Outline and Reading List  
 URPL 721, Methods of Planning Analysis  
 Fall Semester, 1997 - Dave Marcouiller, Instructor

**Lecture #, Date, and Topics Addressed:**

**Readings and Work Assignments:**

I. Research design and basic statistical methods

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. September 3<br>Introduction to methods of policy analysis and planning                                                                                                          | Welch and Comer, Chap. 1<br>Patton and Sawicki, Chap. 1                               |
| 2. September 8<br>Communicating quantitative information                                                                                                                           | Welch and Comer, Chap. 13<br>Witzling and Greenstreet, Chap. 7                        |
| 3. September 10<br>Research design in planning analysis<br>- components of research design<br>- validity<br>- types of research design                                             | Welch and Comer, Chap. 2<br>Distribute Group Project I                                |
| 4. September 15<br>Basic descriptive and inferential statistics<br>- data types and scales<br>- basic descriptive statistics<br>- sampling<br>- introduction to hypothesis testing | Welch and Comer, Chap. 3                                                              |
| 5. September 17<br>Basic descriptive and inferential statistics<br>- hypothesis testing<br>- types of hypothesis tests<br>- contingency analysis                                   | Welch and Comer, Chap. 5 & 7                                                          |
| 6. September 22<br>Simple linear regression analysis<br>- overview of linear regression<br>- major concepts                                                                        | Welch and Comer, Chap. 8                                                              |
| 7. September 24<br>Simple linear regression analysis<br>- mechanics of linear regression                                                                                           | Welch and Comer, Chap. 8<br><b>DUE -- Group Project I</b><br>Distribute Problem Set I |
| 8. September 29<br>Simple linear regression analysis<br>- more mechanics<br>- statistical tests on equation and coefficients<br>- interpretation of coefficients                   | Welch and Comer, Chap. 8                                                              |

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|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 9.  | October 1<br>Simple linear regression analysis<br>- more mechanics<br>- underlying assumptions of OLS<br>- violations of underlying OLS assumptions | Welch and Comer, Chap. 8                                |
| 10. | October 6<br>Simple linear regression analysis<br>- more mechanics<br>- nonlinear relationships                                                     | Welch and Comer, Chap. 8<br><b>DUE -- Problem Set I</b> |
| 11. | October 8<br>Review for exam                                                                                                                        |                                                         |
| 12. | October 13<br><b>Exam I</b>                                                                                                                         |                                                         |

II. Multivariate regression analysis

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|-----|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 13. | October 15<br>Exam questions<br>Introduction to multiple regression analysis<br>- cross sectional data | Welch and Comer, Chap. 9<br>Distribute Group Project II     |
| 14. | October 20<br>Multiple regression analysis<br>- cross sectional data<br>- time series data             | Welch and Comer, Chap. 9<br>Distribute Problem Set II       |
| 15. | October 22<br>Multiple regression analysis<br>- model building                                         | Welch and Comer, Chap. 9                                    |
| 16. | October 27<br>Multiple regression analysis<br>- model building and interpretation of results           | Welch and Comer, Chap. 9                                    |
| 17. | October 29<br>Other multivariate techniques<br>- probit analysis<br>- discriminant analysis            | Welch and Comer, Chap. 10<br><b>DUE -- Group Project II</b> |
|     | October 31 (lab)                                                                                       | <b>DUE -- Problem Set II</b>                                |
| 18. | November 3<br>Review for exam                                                                          |                                                             |

19. November 5  
Exam II

III. Basic demographic and economic analysis techniques

20. November 10  
Demographic analysis  
- types of data  
- overview of population projections  
- extrapolation techniques  
Klosterman, Chap 1-3
21. November 12  
Demographic analysis  
- cohort-survival analysis  
- macro projections  
- migration analysis  
Klosterman, Chap. 4-8
22. November 17  
Community (and regional) economic analysis  
- descriptive community (regional) statistics  
- development theories  
- overview of analytical tools  
Reserve readings  
(Shaffer, Chap. 1-2)
23. November 19  
Community economic analysis  
- export base theory  
- location quotients and minimum requirement techniques  
Klosterman, Chap. 9-11
24. November 24  
Community economic analysis  
- input-output analysis  
Reserve readings
25. November 26  
Community economic analysis  
- input-output analysis  
Reserve readings
26. December 1  
Community economic analysis  
- extensions of input-output analysis  
- social accounting matrix analysis  
- computable general equilibrium analysis  
Reserve readings  
Distribute Problem Set III
27. December 3  
Community Economic Analysis  
- conjoined I/O econometric models  
- guest Lecture with Professor Steven C. Deller  
Reserve readings
28. December 8  
Reserve readings

Qualitative policy research methods

**DUE -- Problem Set III**

29. December 10  
Review for exam
30. December 15 (Monday during Finals Week)  
Exam III