

093

Washington State University
MAJOR CURRICULAR CHANGE FORM - - COURSE
(Submit original signed form and ten copies to the Registrar's Office, zip 1035.)

093

Future Effective Date: 08/16/2013 New course Temporary course Drop service course
(effective date cannot be retroactive) There is a course fee associated with this course (see instructions)

- Variable credit _____
- Repeat credit (cumulative maximum 12 hours)
- Increase credit (former credit _____)
- Lecture-lab ratio (former ratio _____)
- Number (former number _____)
- Prefix (former prefix _____)
- Crosslisting (between WSU departments)
(Must have both departmental signatures)
- Cooperative listing (UI prefix and number _____)
taught by: WSU UI jointly taught
- Conjoint listing (400/500)
- S, F grading
- Request to meet Writing in the Major [M] requirement (Must have All-University Writing Committee Approval)
- Request to meet GER in _____ (Must have GenEd Committee Approval) Fulfills GER lab (L) requirement
- Professional course (Pharmacy & Vet Med only) Graduate credit (professional programs only)
- Other (please list request) _____

CrmJ 524 Advanced Topics in Quantitative Methods
course prefix course no. title

3	3	0	0	Intermediate Quantitative Methods (523)	prerequisite
credit	lecture hrs per week	lab hrs per week	studio hrs per week		

Description (20 words or less) Advanced quantitative methods used in criminal justice, including time series, HLM, multi-level modeling, spatial analysis, and repeated measures analysis.

Instructor: Hamilton, Zachary Phone number: (509) 358-7961 Email: Zachary.Hamilton@wsu.edu
Contact: Mareinin, Otwin Phone number: (509) 335-8428 Email: otwin@wsu.edu
Campus Zip Code: 4872

- Please attach rationale for your request, a current and complete syllabus, and explain how this impacts other units in Pullman and other branches (if applicable).
- Secure all required signatures and provide 10 copies to the Registrar's Office.

[Signature] 9/12/12 Carol Amy 9-20-12 _____
Chair/date Dean/date General Education Com/date

Chair (if crosslisted/interdisciplinary)* Dean (if crosslisted/interdisciplinary)* Graduate Studies Com/date

All-University Writing Com/date Academic Affairs Com/date Senate/date

***If the proposed change impacts or involves collaboration with other units, use the additional signature lines provided for each impacted unit and college.**

Advanced Quantitative Methods (524) Syllabus

Summer Session I

Instructor: Zachary Hamilton, PhD	Instructor: Zachary Hays, PhD
Office: 403K SAC, Spokane	Office: 717 Johnson Tower, Pullman
Phone: 509.358.7652	Phone: 509.335.4031
Office Hours: By appointment only	Office Hours: By appointment only
Email: zachary.hamilton@wsu.edu	Email: zhays@wsu.edu

Course Description

The intent of this course is to provide graduate students with introduction to advanced modeling utilized in Social Science research. The content of this course will rotate each year. The current semester will provide students with an understanding of multi-level models (sometimes called Hierarchical Linear Models or HLM) and model extensions for repeated measures analysis. Multi-Level Modeling (MLM) allows one to simultaneously examine the effects of both individual level predictors (e.g., age, sex, race/ethnicity, etc.) and aggregate level/contextual measures (e.g., effects of schools, neighborhoods, states, etc.). Repeated measures analyses (sometimes called Growth Curve Modeling) can be viewed as an extension of MLM, and are used when subjects are measured on the same dependent variable at several time points. For these models subjects represent first level measures and the time point at which they are measured represents second level measures.

A prerequisite of graduate level regression modeling will be necessary for comprehension of course content. The structure of this course does *not* focus on the understanding of statistical formulas but instead examines the application of multi-level and repeated measures modeling through the use of statistical software. Students will be expected to manipulate and analyze data using SPSS and HLM (a special MLM software package available for free at: <http://www.ssicentral.com/hlm/student.html>), structure and create visual aids of analysis findings and become proficient academic writers of statistical findings. Skills acquired in this course will provide students sufficient proficiency in quantitative methods to complete complex analyses needed to publish research in top tier Social Sciences journals. Lectures and assignments will provide a base of knowledge of multi-level and repeat measures models, students are encouraged to read and become learnt in statistical methods beyond the instruction of this course.

Course Objectives

After completion of this course, students should be able to:

- Perform Repeated measures analyses
- Perform analyses using multi-level modeling techniques
- Design studies using HLM

Course Materials

Course Text: Bickel, Robert. 2007. Multilevel Analysis for Applied Research: It's Just Regression! Guilford Press. New York, NY.

Optional Text: Raudenbush, Stephen & Anthony Bryk. 2022. Hierarchical Linear Models: Applications and Data Analysis Methods. Sage. Thousand Oaks, CA.

Snijders, Thomas & Roel Bosker. 1999. Multilevel Analysis: An introduction to basic and advanced multilevel modeling. Sage. Thousand Oaks, CA.

Attendance and Participation

Students are expected to attend class and read course materials. Course material is comprehensive, in the sense that new material builds upon the understanding of previous lessons learned. Some, or all, of the material discussed will be difficult to grasp. Missing classes may result in a significant lack of understanding, and create difficulty in the comprehension of future class discussions. Attendance and participation **will not** be factored into the final grade. With the exception of assignment due dates, it is not necessary to provide any written or verbal notice for missing class. Although it is strongly suggested that one attends *every* class, the responsibility of attendance and attaining course materials (assignments and class notes) falls squarely on the student. Even if a valid excuse is presented, the instructor *will not* provide notes to any student who fails to attend any particular class session.

Instructor Availability

Regular office hours will not be provided. It has been the experience of the instructors that making appointments tends to be the most efficient way of assisting students outside of class. Appointments may be made anytime within this period and appointments outside of this time period are also available when deemed necessary. The best way to arrange an appointment is to send an email with suggested dates and times of availability. It is the *student's responsibility* to make the appropriate arrangements to gain outside assistance. The instructors will not track students down if they are failing or having difficulty grasping course content. To repeat, if a student is having difficulties, it is the student's responsibility to make an appointment with the Instructor to attain the appropriate assistance.

It is not the instructors' intention to give "C's", "D's" or "F's" and we will make every attempt to assist students who require additional attention. However, one should not confuse empathy with sympathy. If an individual fails to complete any of the requirements listed, they will be graded appropriately and exceptions will not be provided.

Academic Integrity

Washington State University is committed to principles of truth and academic honesty. Students are to pursue their academic careers in a manner consistent with the standards of academic integrity adopted by the University. The University will not tolerate acts of academic dishonesty including any forms of cheating, plagiarism, or fabrication. Washington State University reserves the right and the power to discipline or to exclude students who engage in academic dishonesty.

Plagiarism Policy

Plagiarism is the unacknowledged use of someone else's words or ideas. Evidence of plagiarism may result in a score of 0 for the exam or assignment and/or suspension from the University. For a first offense, any paper plagiarized in whole or in part will receive an "F" (0 points), and the incident must be reported to the WSU Office of Student Conduct. *Students will NOT be allowed to rewrite the plagiarized paper for a better grade.*

Grade Distribution

Assignments (6) 100%

Assignment Format

Course assignments are completed each week and are designed to apply what you have learned in the previous week. Most assignments will require an analysis of data in HLM or SPSS, the creation of visual aids (tables and figures) and written interpretation of findings. It is expected that the final format of assignments will be completed in MS Word. Tables are to be created in either MS Word or Excel and inserted into the assignment text and are *not to be copied and pasted from HLM or SPSS* (rare exceptions may apply). Graphs and figures should be of journal quality with all necessary labels, legends and notations included. Assignments are assigned on the week the course material is presented and are due at the beginning of the following week's class. If a student is unable to attend class they must make arrangements to submit their assignment early to the Instructor. **Late assignments will only be allowed with valid documentation** (i.e. Physician's note of illness).

Make-up and Late Assignments

Make-up and late assignments will only be allowed if prior notification is provided. Given that this is a summer course, it is not a good idea to procrastinate submitting assignments as the complexity of the work increases substantially as the course progresses.

Students with Disabilities

WSU and the Criminal Justice and Criminology Department is committed to providing assistance to help students complete this course successfully. Reasonable accommodations are available for students with a documented disability. Please visit the Disability Resource Center (DRC) during the first two weeks of every semester to seek information or to qualify for accommodations. All accommodations *must* be approved through the DRC (Admin. Annex Bldg., Room 205). Call 335-3417 for an appointment with a disability counselor.

Campus Safety Issue

All students should be familiar with the Campus Safety Plan and the University Emergency Management system. Details can be found at <http://safetyplan.wsu.edu> and <http://oem.wsu.edu/emergencies>, respectively. Students are encouraged to go to <http://my.wsu.edu> and, under the Emergency Notification box, enter their emergency contact information.

Course Schedule (Summer)

Week 1 – Introduction and Techniques

May
8th Course Introduction Review

10th Introduction to Multi-Level Data

Week 2 – Multi-Level Parameters

15th Contextual and Individual Effects (Assignment 1 Due)

17th Fixed and Random Effects

Week 3 – Constructing and Interpreting Multi-Level Models

22nd Modeling intercepts and slopes (Assignment 2 Due)

24th Three-Level Models

Week 4 – Overview of Repeated Measures

28th Conceptualization & Repeated Measures Model Types (Assignment 3 Due)

31st Marginal Models and Covariance Structures

June

Week 5 – Overview of Repeated Measures

5th Multi-level Linear Mixture Models for Repeated Measures (Assignment 4 Due)

7th Extending Mixture Models and Model Building

Week 6 - Generalized linear models

12th Multi-Level Generalized Linear Models (Assignment 5 Due)

14th Repeated Measures Generalized Linear Models

Week 7 – Finish Up

19th No Class (Assignment 6 Due)

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Corrected Grading Scale and Disability Statement

Your final course grade will be based upon the total of weighted scores earned across all course requirements. The following grading scheme, based on percent of points earned on each component will determine your course grade:

94 – 100 = A	84 – 86 = B	74 – 76 = C	60 – 66 = D
90 – 93 = A-	80 – 83 = B-	70 – 73 = C-	0 – 59 = F
87 – 89 = B+	77 – 79 = C+	67 – 69 = D+	

Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations **MUST** be approved through the Access Center.

