Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

1. This request is submitted by the Department of
   Bush School of Government and Public Service
   BUSH 635: Quantitative Methods in Public Management II: Policy Emphasis

2. Course prefix, number and complete title of course:

3. Course description (not to exceed 50 words):

   A continuation of BUSH 631. This course studies in more depth, for the purpose of making useful policy
   recommendations, the following topics: regression analysis, survey design, data analysis, and techniques for
   interpreting statistical output from multiple disciplines. This course also will increase proficiency in a statistical
   analysis software package.

4. Prerequisite(s):

5. Is this a variable credit course? □ Yes ☑ No
   If yes, from _____ to _____

6. Is this a repeatable course? □ Yes ☑ No
   Will this course be repeated within the same semester? □ Yes ☑ No
   If yes, this course may be taken _____ times.

7. Has this course been taught as a 489/689?
   □ Yes ☑ No
   If yes, how many times? _____

8. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)

   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

   MPSA (Master of Public Service and Administration Program)

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

10. Prefix | Course # | Title (excluding punctuation)
      --- | ------- | --------------------------
      BUSH | 635     | QUANT METH I I POLICY EMP

      Lect. Lab SCH CIP and Fund Code Admin. Unit Acad. Year FICE Code
      0 3 0 0 0 3 5 2 0 1 1 0 1 0 1 6 1 3 6 4 0 8 1 0 0 3 6 3 2

      Approval recommended by:
      Head of Department Date

      Head of Department (if cross-listed course) Date

      Submitted to Coordinating Board by:
      Associate Director, Curricular Services

      Questions regarding this form should be directed to Sandra Williams at 845-8201.
      Curricular Services – 11/07

      1 of 7 B1
BUSH 635: Quantitative Methods in Public Management II: Policy Analysis Emphasis
Spring 2010

Instructor: Dr. Joanna N. Lahey
Office: Allen Building Rm. 1063
Office Hours: TBA
E-mail: jlahey@tamu.edu;
WebCT Vista Course Homepage: webct.tamu.edu
Teaching Assistant for this course: Jon Perritt  jperritt@neo.tamu.edu

Required Materials:
4.  Additional readings will be made available on reserve at PSEL, on the PSEL web site, or on our webct vista course page.

Course Description:
This is a graduate course in quantitative social science research methods.  It is a continuation of Bush 631, the statistics class.  This class will further 1) develop your analytic skills for use in public affairs and collective decision making, 2) improve your research design skills, 3) assess the validity and limits of information presented to you, 4) improve your ability to manage and analyze data, and 5) give you a thorough grounding in basic regression analysis.  As such, the focus is on application and use rather than on theory.

This course will cover the tools and techniques of quality research design and more advanced analysis skills designed to give you the ability to process information in a useful and correct manner.  This course will also help you to become proficient in the use of the STATA statistical software package.  As a policymaker in the public, non-profit, or private sector, you will find these skills to be invaluable as you make recommendations, decisions, and attempts to persuade others.

In general, the topics to be covered will include: research and experimental design, expected value, review of hypothesis testing, fundamentals of regression analysis, heteroskedasticity, omitted variables bias, measures of fit, assumptions of regression, validity, panel data, probit and logit, quasi-experiments, and (depending on time constraints) time-series regression.

Not all textbook and homework material will be covered in class.  The lectures may also include material not covered in the text.  Therefore the optimal approach to mastering class material includes studying class notes, homework assignments, and the assigned textbook and other readings.  Please bring your laptop and Stata to class, but keep your laptop closed when Stata is not being used for instruction.
NEO Account: You must have a NEO email account in order to log in to the webCT vista system and to receive class announcements, reminders, or logistical instructions. You are responsible for making sure that your neo account is current and working and for checking your Neo account and webct system for current information. If you do not have one, you can obtain one at: http://neo.tamu.edu/.

Course Requirements and Grading:
1) Attendance and Participation – 5%
2) Weekly Homework Assignments – 50%
3) Exam #1 – 20%
4) Exam #2 – 25%

The standard Texas A&M University grading scale will apply:

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tr>
<td>A</td>
<td>90 - 100</td>
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<td>B</td>
<td>80 - 89</td>
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<td>C</td>
<td>70 - 79</td>
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<td>D</td>
<td>60 - 69</td>
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<td>F</td>
<td>0 - 59</td>
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In Class Exam: You will be allowed a calculator and one 8 ½ by 11 inch “cheat sheet” of notes for the exam. The exam will be taken Wednesday night with the other two sections in order to allow you more time for the exam. If you are not available during this time period, please let me know at least a week before the exam. We are currently looking at March 5th as the date for that exam, though that date is subject to change.

Project: We have received feedback from students on their internships or first jobs asking for advice on survey design. As a result, we are going to have a class project where we design a survey that you may be asked to help develop and implement. Some of the weekly homework assignments and a portion of the final exam will be dealing with this class project. A potential class project is designing (and possibly implementing) a survey to answer the question, “How can the methods sequence be improved?”

Extra Credit: There is no extra credit for this course.

Late work policy: Late work will not be accepted. In the case of an emergency (ex. hospitalization, family death, excused absences), accommodations may be made with timely notification and appropriate documentation. Early work is always accepted.

Challenging a grade: Homework assignments and exams will have answer keys posted on webct after grading is complete. You are STRONGLY encouraged to compare your work with the answer key soon after the assignment has been returned. If you feel that your assignment has been graded incorrectly after comparison with the answer key, please submit a typewritten statement to my mailbox with the exam or assignment explaining the point of contention within 4 days of the class period in which homework or exam was returned to the class. Note that your entire assignment is then subject to being re-graded and your grade may actually decrease.
Note on Office Hours: I feel strongly that you should work on the material in the course throughout the week. Therefore, I strongly encourage you to come to my office hours should you need help. If you cannot make those times, then I will be available by appointment. However, I will not be available on the weekend for questions. I encourage you to get started on your homework and identify trouble spots long before each homework is due.

Note on Homework and Group Work: Group work on exams is not allowed unless specified in the exam itself. I encourage you to work with your classmates on homework, or at the very least to check your work with classmates before turning assignments in. Although group work is encouraged, your write-up of your homework must be your own. To get full credit, you must show the work you did to get an answer in addition to giving the correct answer. All Stata and Excel work must be documented so that it communicates what you are doing to an outside viewer. Communication skills are important in public service.

Basic Outline – Note that additional readings will often be posted to supplement the textbook material. Please complete assigned readings before class. Schedule is subject to change. Any changes will be announced in class.

I. Experimental design S&W 1
II. Review S&W 1-3
III. Expected Values S&W 2
IV. Review and intro to regression S&W 4
V. Regression assumptions S&W 5&6
VI. Joint hypotheses, Validity S&W 7
VII. Linearity/non-linearity S&W 8
VIII. Validity S&W 9
IX. Panel Data/Fixed Effects, Probit and Logit S&W 10-11
X. IV: Experiments S&W 12
XI. Natural experiments S&W 13

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<thead>
<tr>
<th>Week #</th>
<th>Topic</th>
<th>Reading</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Week #1</td>
<td>Review of experimental design</td>
<td>S&amp;W 1 &amp; 2</td>
<td>How to answer a question using data</td>
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<tr>
<td>Week #2</td>
<td>Review Expected Values</td>
<td>S&amp;W 2 &amp; 3</td>
<td>Using the data to compare means</td>
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<tr>
<td>Week #3</td>
<td>Intro to regression, one variable</td>
<td>S&amp;W 4 &amp; 5</td>
<td>Comparing relationships</td>
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<td>Week #4</td>
<td>Multiple regression</td>
<td>S&amp;W 6</td>
<td>Controlling for other factors</td>
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<td>Week #5</td>
<td>Multiple regression and hypothesis testing</td>
<td>S&amp;W 6 &amp; 7</td>
<td>Testing with controls</td>
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<td>Week #6</td>
<td>Multiple regression hypothesis testing</td>
<td>S&amp;W 7</td>
<td>More testing</td>
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<td>Week #7</td>
<td>Linearity/non-linearity</td>
<td>S&amp;W 8</td>
<td>Straight answers but not</td>
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<td>Week #8</td>
<td>Midterm</td>
<td>a straight line</td>
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<td>Week #9</td>
<td>Assessing regression studies: validity</td>
<td>§&amp;W 9</td>
<td>Good luck</td>
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<td>Week #10</td>
<td>Panel data: fixed effects</td>
<td>§&amp;W 10</td>
<td>Mistakes to recognize and avoid</td>
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<td>Week #11</td>
<td>More panel data issues</td>
<td>§&amp;W 10</td>
<td>Multiple observations on the same units</td>
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<td>Week #12</td>
<td>Binary dependent variables: probit and logit</td>
<td>§&amp;W 11</td>
<td>Difference-in-differences</td>
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<tr>
<td>Week #13</td>
<td>Instrumental variables</td>
<td>§&amp;W 12</td>
<td>When the outcome is yes/no</td>
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<td>Week #14</td>
<td>Experiments and “Natural Experiments”</td>
<td>§&amp;W 13</td>
<td>When the independent variable … isn’t</td>
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<tr>
<td>Week #15</td>
<td>Review</td>
<td></td>
<td>More diff-in-diffs</td>
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| TBD According to University Schedule | Final Exam |

**Honor Code:** “An Aggie does not lie, cheat or steal or tolerate those who do.” Every student, graduate as well as undergraduate, is expected to adhere to this code, violation can result in disciplinary action.

More information about Honor Council Rules and Procedures can be found at [http://www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor).

**Students with Disabilities:** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall or call 845-1637.

**Cheating or Plagiarism:**
All work submitted in this course must be your own work, produced exclusively for this course. The use of someone else’s ideas, quotations, music, graphs/charts, and/or paraphrases must be properly documented, even if you have the permission of that person. Direct quotes must be in quotation marks and have the page number in the citation. *Plagiarism will result in a zero for the assignment and may result in a failing grade for the class.* Violations may also be noted on
student disciplinary records. If you are in doubt regarding any aspect of these issues, please consult with the instructors before you complete the relevant assignment. Also, please refer to your copy of Credit Where Credit is Due: a Guide to the Citation of Sources for Bush School Students. (Paraphrased and adapted with permission from Dr. M. Rose Barlow, Psychology of Trauma syllabus, Academic Dishonesty section.)
November 5, 2008

MEMORANDUM

TO: Jeryl L. Mumpower  
Professor/Director of the Master of Public Service and Administration Program  
Bush School of Government and Public Service

FROM: Michael Longnecker, Associate Department Head  
Department of Statistics

SUBJECT: Quantitative Methods Course Offered by Bush School

The Department of Statistics does not object to the Bush School offering the course, Quantitative Methods in Public Management II: Policy Emphasis (BUSH 635). This course does not overlap with any of our graduate service courses.