PA 5043: Economic and Demographic Data Analysis

Tu/Th 1:00p-2:15p CSOM 1-132 (3/22-5/7) (2 credits) Prof. Ragui Assaad
Lab Sessions: Offc: HHH 252
    Section 002: F  9:45-11:00, HHHCtr 85 Phone: 625-4856
    Section 003: F 11:15-12:30, HHHCtr 85 TA: Sunghun Lim

Lab Sessions: HHH 295 Cube 6
    Phone: 530-601-3641
    E-mail: slim0003@umn.edu

Course Description:
This course aims at developing quantitative data analysis skills in the areas of economic and demographic analysis of small geographic areas. The methods covered are used to analyze the structure of regional and local economies, such as location quotient analysis and the economic base model, and to analyze the structure of the population and project population change over time. Familiarity with Excel is assumed.

Learning Objectives:
By the end of the course, students should have acquired the following competencies:
- Be familiar with, and able to search, the most important online public sources of quantitative economic and demographic data that provide information at the regional and local levels
- Be able to effectively download data from these sources and put them in a suitable format for analysis
- Become comfortable with models and mathematical representations of reality, and be able to competently move back and forth from verbal to mathematical formulations of economic and demographic concepts.
- Be able to effectively manipulate data and conduct quantitative analyses using a spreadsheet program such as Excel.
- Be able to accurately interpret numerical results
- Understand the economic and demographic factors that underlie the growth of urban and regional economies
- Be able to evaluate the assumptions that underlie quantitative models and analyses and assess their limitations
- Be able to prepare clear, accurate and compelling reports using text, tables and graphics
- Become intelligent consumers and critical readers of work that uses quantitative methods.
Be aware of the ethical dimensions of quantitative data analysis and interpretation and the various ways in which data can be manipulated to come up with the “right answer.”

The lectures will focus on concepts, assumptions, and interpretation of results. The labs and assignments will provide an opportunity to apply the methods learned to regional and local data from Minnesota and the U.S.

**Texts:**

The textbook is available through e-reserves, which you can access through the course Moodle site. Other reading assignments are also available from the Moodle site.

**Assignments and Grading:**
Two 15-minute multiple choice quizzes will be administered during lab. The quizzes will be open book/open notes and will be designed to test your understanding of the concepts covered in class. You will be assigned to a team for the purpose of completing two team projects. Your grade for the projects will be based on that of your team, but will include a component that depends on an evaluation of your contribution to the team process by your team members. The final exam is a take-home, open book, open notes exam to be carried out individually. The final letter grade will be based on your performance relative to others in the class.

<table>
<thead>
<tr>
<th>Assignment Title</th>
<th>Due Dates</th>
<th>% of Grade</th>
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<tbody>
<tr>
<td>Two in-class quizzes (10 points each)</td>
<td>4/8, 4/22</td>
<td>20</td>
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<tr>
<td>Regional Economic Analysis Project</td>
<td>4/15</td>
<td>25</td>
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<tr>
<td>Regional Demographic Analysis Project</td>
<td>4/29</td>
<td>25</td>
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<tr>
<td>Take-home Final Exam</td>
<td>5/10</td>
<td>30</td>
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**Course Moodle Site:**
We will be using Moodle for most of our communications in this class. You will access the Moodle site to get notices from the instructor and the TA and to download handouts and assignments.
Course Schedule

Week 1 (3/22, 3/24)  Introduction to Regional Economic Analysis, Regional Economic Data sources and Data Classification Schemes & The Economic Base Model
Lab 1  (3/25)  Downloading County and Metropolitan Employment Data

Lab 2  (4/1)  Estimation of Basic Employment Using Location Quotient Method

Week 3 (4/5, 4/7)  Projecting Employment and Economic Impact Analysis
Lab 3  (4/8)  Quiz #1 & Continuation of Basic Employment Estimation
Week 4 (4/12, 4/14)  Introduction to Small Area Population Analysis and Demographics.
Lab 4  (4/15)  Downloading and Analyzing Regional Population Data
Week 5 (4/19, 4/21)  Population Extrapolation Techniques
Lab 5  (4/22)  Quiz #2 & The Population Extrapolation Template
Week 6 (4/26, 4/28)  The Cohort-Component Method: Overview and the Mortality Component
Lab 6  (4/29)  The Cohort-Component Template
Week 7 (5/3, 5/5)  The Cohort-Component Method: The Fertility and Migration Components
Lab 7  (5/6)  Final Exam Review

Assigned Readings:

Week 1  Introduction to Regional Economic Analysis, Regional Economic Data sources and Data Classification Schemes & The Economic Base Model
- Browse in http://www.census.gov/eos/www/naics/
- And http://www.census.gov/econ/cbp/
- Klosterman Ch. 9

Week 2  Estimating Basic Employment: Assumptions and Location Quotient Approaches

Week 3  Projecting Employment and Economic Impact Analysis
- Klosterman Ch. 12, 169-175.
- Klosterman, Ch. 13, 189-193.

Week 4  Introduction to Small Area Population Analysis and Demographics
• Also check out “MOST RECENT POPULATION PROJECTIONS THROUGH 2045”
  •
    o Explore web site and check out different geographic areas for which projections are available from the State.

**Week 5**
*Population Extrapolation Techniques*
  • Klosterman Ch. 1.
  • Klosterman Ch. 2, pp. 9-19.
  • Klosterman Ch. 3.

**Week 6**
*The Cohort-Component Method: Overview and the Mortality Component*
  • Klosterman Ch. 4, pp. 51-64.

**Week 7**
*The Cohort-Component Method: The Fertility and Migration Components*
  • Klosterman Ch. 6, pp. 81-86.
  • Klosterman Ch. 7, pp. 89-95.
**Missed exams and late work.** Missed exams can be made up if the instructor is informed in advance and agrees that the reason for delay is valid. Late work will be marked down at the instructor’s discretion. Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: [http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html](http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html)

**Incompletes.** This course follows the Humphrey School policy regarding incompletes. An incomplete will only be granted after the instructor and the student have mutually agreed upon a timetable (written contract) for completion of coursework. An incomplete must be requested in advance, and the Humphrey School incompletes form must be filled out. The form is on-line at: [http://www.hhh.umn.edu/img/assets/11160/Incomplete%20form.pdf](http://www.hhh.umn.edu/img/assets/11160/Incomplete%20form.pdf)

**Disabilities.** It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact their instructor early in the semester to discuss their individual needs for accommodations. Accommodations must be arranged in advance. Further information is available from Disabilities Services (230 McNamara Hall).

**Electronics in class.** You may use your laptop computer in class for note-taking or looking up answers to questions that come up in class. You may not use it for checking email or Facebook or anything else. It's very tempting – and also very rude, not to mention detrimental to your education. First offenders are asked to turn off the computer for the class. Second offenders are required to keep computers put away for the rest of the semester. Similarly, **cell phones and smart phones** and the like may kept on and visible by people with small children or similar responsibilities (but tell the instructor); everyone else is expected to keep their electronics out of sight and out of hearing.

**Academic integrity.** Academic integrity is essential for a positive teaching and learning environment. All students enrolled in this course are expected to complete course-related responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others, by misrepresenting someone else’s work as your own, or by another kind of scholastic dishonesty can result in disciplinary action, including receiving an F or an N for the course.

**Scholastic misconduct** is broadly defined as any act that violates the right of another student in academic work or that involves misrepresentation of your own work. Scholastic dishonesty includes, (but is not necessarily limited to): cheating on assignments or examinations; plagiarizing, which means misrepresenting as your own work any part of work done by another; submitting the same work, or substantially similar work, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another student of necessary course materials; or interfering with another student's work. (Student Conduct Code:
Sexual harassment. "Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf

Equity, diversity, equal opportunity, and affirmative action: The University will provide equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO-AA.pdf.

Appropriate student use of class notes and course materials: Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see: http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html.

Resources for Success:

Center for Writing’s Student Writing Support. Student Writing Support provides free writing instruction for all University of Minnesota students – graduate and undergraduate – at all stages of the writing process. They help students develop productive writing habits and revision strategies via in-person consultations. See http://writing.umn.edu/sws/index.html. It is also possible to submit short papers online to the Student Writing Support page at the Center for Writing and get comments and feedback from experienced writing tutors. See http://writing.umn.edu/sws/visit/online/index.html.

Mental health. As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website at http://www.mentalhealth.umn.edu.