2016

552 Quantitative Analysis

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TEXT: There is no text to purchase for this course. We will bring in data from a variety of internet and text sources, and provide notes for the analytical material that is presented.

COURSE DESCRIPTION: This course will provide you with the analytical skills you need to become responsible and critical consumers of data. You will interpret statistical analyses of data of several types (demographic, socio-economic, environmental, financial, geographical, etc.). We will emphasize the use of data to make inferences (predictions, estimates, decision, etc.) in a reliable way.

PREREQUISITES: There are no prerequisites for SOCI 552. Since we will be doing quantitative analysis, we assume that you have a good working knowledge of basic mathematics.

GRADING:

- Some daily assignments
- Metropolitan area comparison project
- Analysis of Recycling assignment
- Educational attainment/transit use assignment
- Team assignment on energy jobs
- Three Exams

Your course grade will be determined by the percentage of available points that you accumulate. Final grades will be assigned according to the usual 70-80-90 scale.

LEARNING OUTCOMES: Students will be able to

- conduct basic statistical manipulations of data.
- create and manipulate spreadsheets.
- review and analyze demographic and socioeconomic data, air and water quality data, environmental pollution and risk data, transportation data, land use and building condition data, business data, and other data relevant to sustainability studies.
- create a cost-benefit analysis for sustainability program or policy changes.
- construct appropriate research questions for program or policy changes affecting sustainability outcomes.
• critique research and findings related to sustainability programs, policies and activities.
• use various primary data sources to address sustainability questions and identify secondary data sources for the same purpose.

IMPORTANT DATES:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>Jan. 18</td>
<td>MLK Day</td>
</tr>
<tr>
<td>Feb. 4</td>
<td>Exam 1</td>
</tr>
<tr>
<td>Feb. 18</td>
<td>1st assignment due</td>
</tr>
<tr>
<td>Mar. 3</td>
<td>Exam 2</td>
</tr>
<tr>
<td>Mar. 7-11</td>
<td>Spring Break</td>
</tr>
<tr>
<td>Mar. 22</td>
<td>2nd assignment due</td>
</tr>
<tr>
<td>Mar. 24-28</td>
<td>Easter Holiday</td>
</tr>
<tr>
<td>Apr. 12, 14</td>
<td>3rd assignment presentations</td>
</tr>
<tr>
<td>Apr. 29</td>
<td>Last Day to Withdraw</td>
</tr>
<tr>
<td>May 3</td>
<td>Final Exam period, 1:00-2:50 pm</td>
</tr>
</tbody>
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DATA SOURCES: The following are some of the data sources we may reference throughout the course.

• *The Social Areas of Cincinnati: An Analysis of Social Needs*, Maloney and Auffrey.
• [www.census.gov](http://www.census.gov)
• [http://factfinder2.census.gov](http://factfinder2.census.gov)
• [www.cagismaps.hamilton-co.org](http://www.cagismaps.hamilton-co.org)
• [www.socialareasofcincinnati.org/report5](http://www.socialareasofcincinnati.org/report5)
• [www.cincinnati-oh.gov/health/data-studies](http://www.cincinnati-oh.gov/health/data-studies)
• [www.odh.ohio.gov/healthstats/dataandstats](http://www.odh.ohio.gov/healthstats/dataandstats)
• [www.worldbank.org](http://www.worldbank.org)
• [www.healthlandsape.org](http://www.healthlandsape.org)
• [www.oki.org/mapsdata](http://www.oki.org/mapsdata)
• [www.waterqualitydata.us](http://www.waterqualitydata.us)
• [www3.epa.gov/climatechange/](http://www3.epa.gov/climatechange/)

TENTATIVE SCHEDULE: This is a tentative schedule for the semester. We reserve the right to alter it in any way necessary to achieve the goals of SOCI 552.

Jan. 12/14 Intro to stats

Jan. 19/21 Intro to data sets (Census and ACS)

Jan. 26/28 More stats

Feb. 2/4 Data sets, Exam 1
Feb. 9/11  More stats
Feb. 16/18  Intro to environmental data (EPA), Metro Area Comparison due
Feb. 23/25  More stats
Mar. 1/3   Class discussion – The Reign of Recycling, Exam 2
Mar. 8/10  Spring Break
Mar. 15/17 Intro to Relational Assignment, more stats
Mar. 22/24 Relational Assignment due, Easter Holiday
Mar. 29/31 More stats
Apr. 5/7   More stats
Apr. 12/14 Present Energy Job team assignment
Apr. 19/21 Wrap up
Apr. 26/28 Questions and Problems
May 3     Written final exam