Course Objectives:
- The course introduces basic statistical techniques and the statistical reasoning useful for planning and policy analysis.
- The emphases of this course are:
  - **Statistical reasoning**: to develop skills in statistical reasoning and to learn the strength and limitations of basic statistical techniques.
  - **Application**: to recognize the appropriateness of basic statistical techniques for solving problems, to set up and solve simple “real-world” problems, and to interpret the results to the general public.
  - **Preparation**: to prepare for other planning courses and professional practice that require statistical reasoning and methodology.

Texts and Reading:
All other required readings will be available on the course website

Course format:
The course will be online, asynchronous, which means that you can read the textbook/readings, watch the course videos, and complete the assignments at your own pace.

Course documents, including readings, in-session exercise, and course videos will be uploaded to Canvas on or before the designated release date (see course schedule below). Assignments will be uploaded at least one week before the due date.
Grace will hold her office hours on Thursdays 11am-1pm, and my office hours are scheduled for 1:30-2:30pm, right after. We hope that these hours can provide maximum convenience for you and foster peer learning.

**Course requirements:**
Each student is responsible for his/her own learning. Students should read weekly readings and be prepared for class. If a section of the textbook, video, in-class exercise, and/or assignment is puzzling, it is the student’s responsibility to see the instructor or the teaching assistant as soon as possible. Students are warmly encouraged to meet with the instructor and/or the TA during and outside of office hours.

Course requirements include assignments, midterm exam, and final exam, which are all graded. Late assignments will be marked down. I will not allow makeup exams unless students have documentary evidence clearly demonstrating compassionate or compelling circumstances.

On average, students should spend 48 hours per credit per semester on in-class activities and activities outside of the classroom (i.e., approx. 144 hours for a 3-credit course).

**Grading:**
The course grade will be calculated as follows:
- Eight Assignments: \(8 \times 5\% = 40\%\)
- Midterm exam: 30%
- Final exam: 30%

**Computer Requirement**
- Since the class is online, you need to have audio and video access to join the asynchronous class sessions.
- Knowledge of a statistical package, such as Excel, is an indispensable part of modern statistics. The class presentations, some assignments, and exams are computer-based.
- The analysis ToolPak of Excel is used in this class for exploring statistical concepts and demonstrating statistical analysis of actual data used for business decisions. No previous knowledge of this ToolPak is assumed. If you need additional help, you may also ask the teaching assistants or the instructor to show you how to use the package.

**Special Accommodation**
Students with limitations due to disability, including learning disability, may request for any reasonable accommodations. Students will be allowed to complete examinations or other requirements that are missed because of a religious observance. In case of special accommodations are needed in order to meet any of the requirements of this course, please contact the instructor as soon as possible.

**Academic Conduct**
The University, as an instrument of learning, is predicated on the existence of an environment of integrity. The faculty has the primary responsibility for establishing and maintaining an atmosphere and attitude of academic integrity such that the enterprise may flourish in an open and honest way. Students share this responsibility for maintaining standards of academic
performance and classroom behavior conducive to the learning process. Please review Chapter UWS 14 and Faculty Document No. 1686 at the following webpage for both UWM’s and the expectations of appropriate student academic conduct:
https://uwm.edu/academicaffairs/facultystaff/policies/academic-misconduct/

**Original Work and Plagiarism**

All work in this course should be your own. In written work, cite your sources for quotes, facts, and opinions, both in the body of your work and in the bibliography. Do not copy word for word unless you place the words in quotation marks. Any plagiarism will be dealt with as a serious ethical breach. If you have questions about whether you are crossing an ethical line, ASK ME. Here is a link to Graduate School website with examples of plagiarism and procedures:
https://uwm.edu/graduateschool/academic-misconduct/

**Other Course Policies**

This course adheres to campus policies regarding students with disabilities, religious observances, active military service, incompletes, discriminatory conduct, academic misconduct, complaints about the course, grade appeals, and firearms. For details about these policies, see http://www4.uwm.edu/secu/news_events/upload/Syllabus-Links.pdf

**Other Policies and Acknowledgements**

Department of Urban Planning is committed to addressing systemic racism across all of its dimensions in our curriculum. Towards this goal, the Department acknowledges the historical roles of urban planning in creating and replicating racial inequities in the built environment. We are committed to developing pedagogical approaches and curricular content to train urban planners on anti-racist planning strategies.

We desire to foster and reinforce an inclusive culture in which democratic principles embrace the richness of our diverse society. This course facilitates and advances respectful dialogues among class participants of diverse backgrounds and experiences.

**Course Schedule**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>1/27</th>
<th>Introduction, Measurement and Research Design</th>
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<tbody>
<tr>
<td>Readings</td>
<td>Meier, et al, Chapter 1-3</td>
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<tr>
<td>Week 2</td>
<td>2/3</td>
<td>Frequency Distribution, Central Tendency, and Dispersion</td>
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<tr>
<td>Readings</td>
<td>Meier, et al, Chapter 4-6</td>
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<td></td>
<td>Poverty and Inequality in Britain 2005, P9-13</td>
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<tr>
<td>Week 3</td>
<td>2/10</td>
<td>Probability</td>
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<tr>
<td>Assignment 1 due</td>
<td>Readings</td>
<td>Meier, et al (8th edition), Chapter 7</td>
</tr>
<tr>
<td>Week 4</td>
<td>2/17</td>
<td>Probability Distribution</td>
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</tbody>
</table>
Assignment 2 due
Readings
Meier, et al, Chapter 7-9

Week 5 2/24 Inference

Assignment 3 Due
Readings
Meier, et al, Chapter 10
Which Polls Fared Best (and Worst) in the 2012 Presidential Race?

Week 6 3/3 Hypothesis Testing

Readings
Meier, et al, Chapter 11-12

Week 7 3/10 Differences between Two Groups

Assignment 4 Due
Readings
Meier, et al, Chapter 13
Cyclists and Pedestrians Can End Up Spending More Each Month Than Drivers

Week 8 3/17 Midterm exam (can be taken during any 2-hours in a 24-hour period, online)

Week 9 3/31 Analysis of Nominal and Ordinal Data
Readings
Meier, et al, Chapter 14-15

Week 10 4/7 Correlation

Assignment 5 Due
Readings
Interpretation of the Correlation Coefficient: A Basic Review Ilvento and Pašif, Correlation and Covariance

Week 11 4/14 Regression

Assignment 6 Due
Readings
Meier, et al, Chapter 17-18

Week 12 4/21 Time Series Regression

Assignment 7 Due
Readings
Meier, et al, Chapter 19

Week 13 4/28 Multivariate Analysis
Readings
Meier, et al, Chapter 20
Better Transportation Options=Healthier Lives

Week 14 5/5 Spatial Analysis
## Assignment 8 Due

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Assignment</th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>5/12</td>
<td>Course Summary</td>
</tr>
<tr>
<td>16</td>
<td>5/19</td>
<td>Final Exam</td>
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</tbody>
</table>