

Course Syllabus  
University of Kansas  
Graduate Program in Urban Planning  
Fall 2017  
9:00-10:15 a.m. Monday and Wednesday  
LOCATION: Snow 201



## **UBPL 741: Quantitative Methods I (a.k.a. Using Research to Foster Compassionate Planning)**

### **Overview**

#### **Instructor**

Ward Lyles  
OFFICE: Snow 201  
PHONE: 785-864-2553  
EMAIL: wardlyles@ku.edu  
OFFICE HOURS: Monday and Wednesday 12:00-1:00 and by appointment. I am very open to meeting with you any time it works for both of us. Email is the quickest and easiest way to schedule a meeting with me.

#### **Course Summary**

UBPL 741 is the first half of a two-part series (with UBPL 742) that introduces students to the application of research methods in the field of urban planning and policy. The course is taught through the lens of using research to understand issues of diversity, equity, and inclusion. For Urban Planning Masters Students, UBPL 741 is a required core course.

#### **A Brief Note About My Teaching Philosophy**

Dear UBPL 741 Student,

All my teaching and mentoring extends from a desire to engage you in your professional and personal development.

I structure my courses to engage you with academic content, with your peers, with the world beyond campus, with me as instructor, and with your own personality, values, and approach to learning and action.

I firmly believe – and have experienced in the classroom – that students learn more deeply through active learning in a safe, respectful environment that challenges everyone to engage socially and emotionally, as well as intellectually.

I also firmly believe each student enters the classroom as a complex, unique person with different experiences, skills, and personalities – each student is so much more than a receptacle to be filled with planning knowledge. As such, I aim to function more as a learning guide and companion and less as a source of information.

I am in the process of continually learning about issues of diversity, equity, and inclusion (DEI). I have participated in a year-long Diversity Scholars Faculty workgroup through the Center of Teaching Excellence (CTE), have completed KU's Safe Zone training around gender and sexual diversity, and regularly participate in continuing education activities related to teaching and mentoring through CTE. I aim to bring what I learn to my work with you.

I look forward to the opportunity to learn with you this semester!

Best regards,  
Ward

PS - There is no prerequisite for the course other than a willingness to grow as a professional and person.

## Learning Goals and Objectives

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I structure this course around two overarching learning goals and five learning objectives. I phrase the goals as aspirations of how I hope you view yourself in the future. I phrase the objectives as activities I hope you will be able to take in the rest of your courses and in your professional work.

### Learning Goals:

Upon completing UBPL 741 I will

- 1) apply research thinking and methods in my work to improve the communities in which I work, and,
- 2) feel motivated and prepared to steadfastly engage in a life-long process of reflection, learning, and action to promote diversity, equity and inclusion in my community.

### Learning Objectives:

Upon completing UBPL 741 I will confidently be able to:

- 1) Remember and Understand approximately 50 core research methods concepts for urban planning, *and*
- 2) Apply research methods concepts and techniques to solve applied planning problems, *and*
- 3) Analyze planning data, decisions, and processes using research methods concepts and techniques, *and*
- 4) Evaluate the success or failure of planning decisions and processes to consider diversity, equity, and inclusion issues, *and*
- 5) Create, Design, and Plan original research projects to inform planning problems and decisions.

## Core Themes and Motivating Questions

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Planners – practitioners and scholars alike – have many different definitions of planning. For now, I want you to consider **four core themes** that cross essentially all definitions and theories of planning.

- 1) **Future** – as planners, we influence current actions to shape an uncertain future.
- 2) **People** – as planners, we engage the full diversity of people in our communities.
- 3) **Learning** – as planners, we generate and apply knowledge to solve problems.
- 4) **Process** – as planners, we inform and shape decision-making, which means we must tackle power and conflict if we want to be effective.

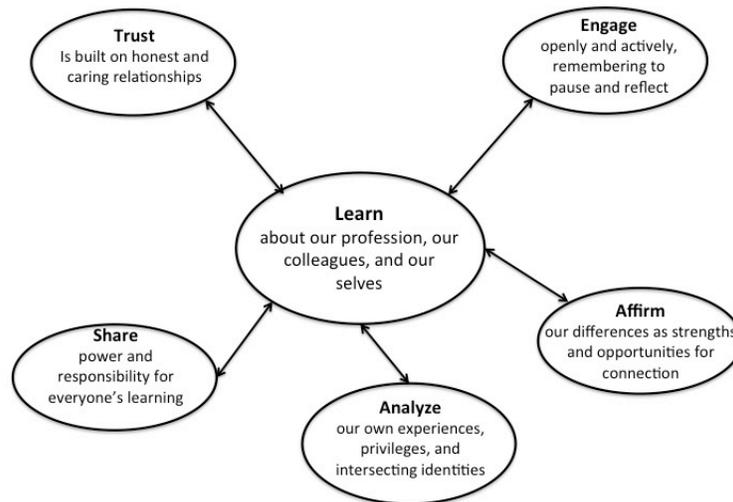
With these four themes in mind, in this course we will develop answers to these motivating questions:

- 1) *Why do we struggle so much with “us” vs. “them?” Why does it matter for planning?*
- 2) *How do we know what we know? How do we learn more?*
- 3) *What is data? What distinguishes good data from bad data? How do we get good data?*
- 4) *How should we use numbers to make complicated issues easier to understand?*
- 5) *Which ‘under the hood’ concepts in statistics do we really need to understand?*
- 6) *How do we know and show that two things we care are about related to each other?*

## Course Climate and Pedagogy

### Climate

Course climate refers to the shared experience of students and instructors in the classroom. A positive course climate can greatly enhance learning; a negative course climate can constrain, impede, or even undermine learning. My goals for the climate in this course are:



### Pedagogy

The format of the course is based on the principles of Team-Based Learning (TBL), which is an approach to collaborative learning that motivates students to hold themselves and each other accountable (see Michaelson, Knight and Fink 2004 or Sibley and Ostafichuk 2014 for more information). It involves strategically ordered individual work and teamwork with immediate feedback. TBL shifts the focus of classroom time from the instructor conveying course concepts to the **application of course concepts** by student learning teams.

### Modules

The course is designed around six modules, each about two weeks long, that address:

1. Why DEI?
2. Research? For Planning?
3. Data – What is it? How do we get it?
4. Using Numbers: Measures of Central Tendency and Dispersion
5. Under the Statistics Hood: Normality, Estimation and Hypothesis Testing
6. Are You Two Related? Measures of Association and Significance Testing

### Readiness Assurance Process (RAP)

For each of the modules, students will acquire fundamental knowledge through readings completed before the module begins (Required Readings.) Students will be held accountable for their preparation through the completion of a Readiness Assurance Process (RAP) on the first day of the module. The RAPs will proceed as follows:

1. **READING:** Students read required materials prior to class. Students are also required to complete reading summaries for each reading as part of their E-Portfolio.
2. **INDIVIDUAL READINESS ASSURANCE TEST:** Each student will complete an in-class test with 5-10 multiple-choice questions covering assigned readings. These tests hold students accountable for acquiring foundational knowledge from the readings that will prepare them for team problem solving in subsequent classroom time.

3. **TEAM READINESS ASSURANCE TEST:** Each team will then complete the same test that was completed by individual students. By the time of completion of the team test, every student will know the correct answer to every question.
4. **DISCUSSION:** The instructor will facilitate a discussion of test questions that were most problematic for individual students and teams, and of the assigned readings for the day.

In-Class Applications

Following the RAP (which we'll complete at the beginning of each module and also at the end of the semester), the bulk of class time will be used to practice applying knowledge from readings in a series of team application exercises that will require teams to discuss and solve relevant, significant problems. The exercises will be based on the following 4 S's:

1. **SIGNIFICANT PROBLEM:** problems are intended to be interesting and relevant, requiring students to use course concepts to solve them.
2. **SAME PROBLEM:** each team will be given the same problem.
3. **SPECIFIC CHOICE:** each team will be required to make a specific choice among a specified set of solutions.
4. **SIMULTANEOUS REPORT:** each team will report its choice simultaneously for other teams to view.

Following the simultaneous reporting process, time will be allocated for discussion across teams that will center on why teams made the decisions they made, what factors they considered, and what is most important to learn from the exercises. In some cases, teams will be required to submit written products from the exercises for credit. While there will be no required readings for the in-class exercises, resources will be made available before the exercises and groups may find it beneficial to review the materials before class meets.

## Logistical Information

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**Readings:**

All readings are available through the course blackboard page except the two required textbooks:

- *Social Statistics for a Diverse Society, Sixth Edition* by Chava Frankfort-Nachmias and Anna Leon-Guerrero (2011) and
- *Deep Diversity: Overcoming Us vs. Them* by Shakil Choudhury (2015)

**Grading:**

Grades will be calculated based on the following components.

	Points Toward Final Grade (100 Total Possible)
1) Individual Performance	70
a) Class attendance and attentiveness	10
b) Readiness assurance tests	10
c) Assignments	10
d) E-Portfolio/Semester Project	40
2) Team Performance	20
a) Readiness assurance tests	20
3) Team Maintenance	10
a) Peer Evaluation	10

\* A general grading rubric is provided in the Assignments folder on Blackboard. It summarizes the expectations I have for your work and the associated grade.

## E-Portfolio

You will share and collate your work by creating an E-Portfolio using Weebly (www.weebly.com) over the course of the semester. During the semester the E-Portfolio will allow us to share our work with each other in an easy-to-access and update format. I hope that by the end of the semester you will be able to share your E-Portfolio with potential employers to demonstrate what you are learning and have done. I also hope that working with the E-Portfolio tool will give you the skills and motivation to develop and maintain an E-Portfolio of all your UBPL work to share with potential employers.

### **For Each Module** – 18 points total (3 points for each of 6 modules)

- *Reading summaries* – 1 point
  - Before the RAP, post your notes on the readings for the module. This task challenges you to read critically, take organized notes, and be prepared for in-class Readiness Assurance Tests and in-class team exercises. Reading guides that include questions pointing towards the core concepts are provided for each module on Blackboard.
- *Progress on Semester Project* – 2 Points
  - Each Module will have an associated part of the semester project to complete. Details are provided below in the Course Schedule.

### **End of Semester Project** – 22 points total as organized below

More detail on the End of Semester Project is provided in the Assignments folder on Blackboard.

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|---|---|
| <ol style="list-style-type: none"><li>1. Ideal First Job Description - 1 point</li><li>2. How DEI might arise? (People, Issues, Relevance of E,B,T, and P) – 2 points</li><li>3. Research Questions – Descriptive and Explanatory – 2 points</li><li>4. Data Collection Plan – 2 points</li><li>5. Hypotheses – 2 points</li><li>6. Data Analysis Plan – 2 points</li><li>7. Limitations – 1 points</li></ol> | <p>Also part of evaluation:</p> <ul style="list-style-type: none"><li>• Organization – 5 points</li><li>• Writing – 5 points</li><li>• Creativity – up to 3 bonus points possible</li></ul> |
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## Additional Statements and Resources

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At the end of this syllabus you will find a lot of useful information about resources at the University of Kansas that can greatly enhance your learning experience here at KU. These resources range from Counseling and Psychological Services to The Writing Center to the Academic Access and Achievement Center. Brief descriptions of the resources, their services, and their contact information are included. Please look over the list of resources. If you ever have any questions about one of the resources, please do not hesitate to ask me!

### **Attendance**

In a team-based class, attendance is essential for individual, team, and class success. Because unexpected situations do arise, one unexcused absence will not be penalized. However, an escalating scale will be used for 2, 3 or more absences. That is, the more classes one misses, the greater the deduction on the final grade for each missed class.

### **Students with Disabilities**

Any student who has a disability that may prevent the fullest expression of abilities should contact me personally as soon as possible so that we can discuss accommodations necessary to ensure full participation and to facilitate the educational opportunity.

### **Religious Holidays**

If any scheduled assignment or exam conflicts with a mandated religious observance, a student should contact me immediately to arrange a make-up assignment or exam on a mutually acceptable date.

## Course Schedule

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The following schedule is subject to change. Notification will be provided as soon as possible regarding any changes.

**Note: Under each date is a set of bullet points summarizing tasks for you to complete BEFORE class on that date.**

### MODULE 1: WHY DEI? DIVERSITY, EQUITY, AND INCLUSION IN PLANNING

Topics to be covered in Module 1 include:

1. Deep Diversity
2. Emotions, Biases, Tribes, and Power
3. Inner Skills for Compassionate Planning

Learning objectives for Module 1 include being able to:

1. Explain the general features and terminology of diversity, equity, and inclusion
2. Explain the role of emotions, biases, tribes, and power in shaping how we interact with others
3. Begin to identify and examine the role of emotions, biases, tribes, and power in planning
4. Cultivate inner skills for compassionate planning

Reading:

- Deep Diversity - Chapter 1 (pgs 1-20) and 7 (pgs 155-176), Inner Skills (pgs 41-45; 70-74; 91-95; 128-129; 147-153); skim the rest
- The Prospect of Compassionate Planning – Lyles, White, and Lavelle

- M 8/21      **Course Overview, Team Formation, E-Portfolio Introduction**
- Complete the survey handed out at Orientation and bring to class (if you missed orientation, the survey is available in Course Documents on Blackboard)
  - Set up Weebly account and start build your E-Portfolio (weebly.com – choose the free version)
- W 8/23      **Syllabus RAP, Social Identities Worksheet, Personality Type Review**
- Re-read syllabus and be prepared for RAP
  - Complete the Social Identities Worksheet (in Blackboard Module 1); bring your notes to class.
  - Complete one of the free online Meyers-Briggs tests and be ready to share your personality type with your teammates on Wednesday. A couple of sites at which you can take the test and learn how to interpret your results are: (<http://www.16personalities.com/free-personality-test> and <http://www.truity.com/test/type-finder-research-edition>)
- M 8/28      **Emotions, Bias, Tribes, and Power in AICP Code of Ethics**
- Review Deep Diversity Readings – Chapter 1, Chapter 7 and Inner Skills (see above)
  - Read AICP Code Ethics Section A: Principles to Which We Aspire (<https://www.planning.org/ethics/ethicscode.htm>); also available on Blackboard in Module 1 folder
  - In your E-Portfolio Module 1 make notes on Section A of the AICP Code of Ethics to show where you see connections to Emotions, Bias, Tribes and Power
- W 8/30      **Emotions, Bias, Tribes, and Power in Planning Education**
- Read *Teaching Equity and Advocacy Planning in a Multicultural “Post-racial” World* by Lung-Amam, Harwood, Sandoval, and Sen
  - Read *Commentary: Diversity in Urban Planning Education and Practice* by Sweet and Etienne
  - For both readings, pick a quote of less than three sentences and copy it into a new section of your E-Portfolio Module 1. Then, for each quote, write a question related to the quote you feel would prompt good in-class discussion.

M 9/4 No Class – Labor Day

W 9/6 **Contemporary Planning Issue Analysis**

- Using Planetizen (<https://www.planetizen.com/>), the Lawrence Journal-World (<http://www2.ljworld.com/>) or another news source to find an article related to the planning specialization you are most interested in and related to DEI issues. Read the article and complete the following task in your E-Portfolio Module 1 section.
  - Produce a summary of 200 words maximum that explains how diversity, equity, or inclusion is addressed in the article and if and how DEI is measured.
  - Print 3 hard copies of your summary (on separate sheets of paper) for use in class. Do not put your name on your summaries.

S 9/9 **Module 1 E-Portfolio Complete on Blackboard (5:00 PM)**

- Reading Notes for Module 1
- Contemporary Planning Issue Analysis
  - Pick and carefully read a planning-related article with a DEI dimension to it. Link to the article. In 200 words or less, briefly summarize its main points and then apply key concepts from Module 1 to analyze the article.

**MODULE 2: RESEARCH? FOR PLANNING? RESEARCH DESIGN AND ETHICS**

Topics to be covered in Module 2 include:

1. Research and Causality
2. Experiments, Quasi-Experiments, and Non-experimental Designs
3. Data and Levels of Measurement
4. Research Ethics

Learning objectives for Module 1 include being able to:

1. Explain the general features and terminology of quantitative social science research
2. Restate the necessary conditions for establishing causality in relationships between and among variables
3. Identify, differentiate, and evaluate alternative design approaches for establishing causality in quantitative research
4. Identify independent and dependent variables and levels of measurement of variables

Readings:

- Quantitative Research and Causality
  - Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). Social Statistics for a Diverse Society, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
    - Chapter 1 (pp. 1-20)
  - Lewis-Beck, M. S. (1995). Data analysis: An introduction. Thousand Oaks; London; New Delhi, Sage Publications
    - pp. vii, 1-8
  - Dane, F. C. (2011). Evaluating research: Methodology for people who need to read research. Los Angeles; London; New Delhi; Singapore; Washington D.C., Sage Publications, Inc.
    - pp. 1-12
- Experiments, Quasi-Experiments, and Non-Experimental Designs
  - Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). Experimental and quasi-experimental designs for generalized causal inference. Boston, New York, Houghton Mifflin Company.
    - pp. 1-7
  - Dane (2011)
    - pp. 161-5, 178-183, 197-9.

M 9/11 Readiness Assurance Process for Module 2

- W 9/13 Team Application Exercise – Research Questions and Types of Research
- Read before class: Four abstracts in Module 2 folder – take notes on what type of research question the abstract addresses and, if identified, what the dependent and independent variables are
- M 9/18 Team Application Exercise – Research Design
- Reading before class: Jun, M. (2006). "The effects of Portland's urban growth boundary on housing prices." *Journal of the American Planning Association* 72(2): 239-240
- W 9/20 Team Application Exercise – Research Ethics
- **Before Class turn in Assignment 1:** complete IRB Certification before class – Email Ward Lyles pdf documenting completion ([https://rgs.drupal.ku.edu/human\\_subjects\\_compliance\\_training](https://rgs.drupal.ku.edu/human_subjects_compliance_training))
- S 9/23 **Module 2 E-Portfolio due on Blackboard (5:00 PM)**
- Reading Notes for Module 2 RAP
  - Contemporary Planning Issue Analysis
    - Pick and carefully read a planning-related article with a DEI dimension to it. Link to the article. In 200 words or less, briefly summarize its main points and then apply key concepts from Module 2 to analyze the article.

### MODULE 3: DATA – WHAT IS IT? HOW DO WE GET IT?

Topics to be covered in Module 2 include:

1. Data types and organization
2. Graphical representation of quantitative data
3. Data collection methods, with special attention to surveys

Learning objectives for Module 2 include being able to:

1. Understand and apply concepts of frequency, percentage, proportions, and distributions
2. Identify, differentiate, and evaluate alternative approaches for selecting a sample from a population
3. Describe the types of variables that are available from the Census for different geographical units
4. Select an appropriate graphic method for representing quantitative data
5. Graphically represent quantitative data using Excel

#### Readings:

##### Organization of Information

- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). *Social Statistics for a Diverse Society*, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
  - Chapter 2 (pp. 27-45)

##### Graphic Representation

- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). *Social Statistics for a Diverse Society*, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
  - Chapter 3 (pp. 63-83)

##### Surveys

- Dillman, D.A., J.D. Smith and L. M. Christian. (2008) *Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method*
  - pp. 22-29; 65-79; 105-106; 148-150; 151-229 (read the section introductions and skim the specific guidelines) 230-236; 270-298; skim 237-270;

M 9/25 Readiness Assurance Process for Module 3

W 9/27 Team Application Exercise – Data and Graphic Representation

M 10/2 Team Application Exercise – Sampling

- Before class: Bunnell, G. and E. Jepson. (2011). " The Effect of Mandated Planning on Plan Quality: A Fresh Look at What Makes a ‘Good Plan’." *Journal of the American Planning Association* 77(4). Read pages 338-346.
- Before class: Olonilua, Oluponmile O., and Olurominiyi O. Ibitayo. 2011. Toward multihazard mitigation: An evaluation of FEMA-approved hazard mitigation plans under the Disaster Mitigation Act of 2000. *Journal of Emergency Management* 9 (1). Read pages 37-41.
- Before class: Wheeler, Stephen M. 2008. State and municipal climate change plans. *Journal of the American Planning Association* 74 (4):481-483.

W 10/4 Team Application Exercise – Data Collection Methods

M 10/9 Team Application Exercise – Survey Design and Administration

W 10/11 No Class – Ward at Association of Collegiate Schools of Planning Conference

**S 10/14 Module 3 E-Portfolio due on Blackboard (5:00 PM)**

- Reading Notes for Module 3 RAP
- Semester Project Part 1:
  - *Motivation:* It’s good to be thinking about your future professional aspirations from day one in graduate school.
  - *Task:* In 1-2 paragraphs describe your ideal first job upon graduation. The more specific your description, the better. Topics to consider addressing include: area of planning (e.g. transportation), type of employer (e.g. public, private, non-profit), size and setting of community (e.g. small city in Midwestern US), the type of tasks you will do (e.g. public outreach, policy analysis, modeling, etc.), the type of co-workers/partners you work with, and what makes it your ideal FIRST job.
- Semester Project Part 2:
  - *Motivation:* Planning, in all its form, can and should deal with DEI issues.
  - *Task:* In 1-2 paragraphs address the following prompts. In what obvious and perhaps subtle ways do you anticipate DEI issues arising in your work? What are some of the reasons they are likely to arise? How has planning succeed and failed in dealing with those issues historically?

**MODULE 4: DATA EXPLORATION: MEASURE OF CENTRAL TENDANCY AND MEASURES OF DISPERSION**

Topics to be covered in Module 4 include:

1. Measures of Central Tendency (mode, median, mean)
2. Measures of Dispersion (range, interquartile range, variance and standard deviation)

Learning objectives for Module 4 include being able to:

1. Interpret commonly-used univariate statistics and distributions
2. Calculate commonly-used univariate statistics and chart distributions using Excel

Readings

Measures of Central Tendency and Measures of Dispersion

- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). *Social Statistics for a Diverse Society*, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
  - Chapters 4 and 5 (pp. 94-121 and 132-156)
- Lewis-Beck (1995)
  - pp. 8-18

M 10/16 No Class – Fall Break

W 10/18 Readiness Assurance Process for Module 4

**S 10/21**            **\*\*\*\* Assignment 2 due on Blackboard by 11:59 PM \*\*\*\***

M 10/23            Team Application Exercise – Measures of Central Tendency

W 10/25            Team Application Exercise – Measures of Dispersion

**S 10/28**            **Module 4 E-Portfolio due on Blackboard (5:00 PM)**

- Reading Notes for Module 4 RAP
- Semester Project Part 3:
  - *Motivation:* In your ideal job, you will likely be asked to do research.
  - *Task:* Develop a set of 4 DEI-related research questions (2 that are exploratory/descriptive and 2 that are predictive/explanatory) that might arise in your ideal job. For each research question, write out the question and in 1-2 sentences explain the motivation for the question.
- Semester Project Part 4
  - *Motivation:* If you are asked to answer a research question, you will need data. And, you will need a plan to collect that data.
  - *Task:* Develop a data collection plan for each of the variables for each of your research questions. Your data collection plan should identify, at a minimum, the following: whether you will use primary or secondary data sources, what data collection method(s) is most appropriate, specifically how you will measure the variable, the level of measurement your approach will enable, and what resources (tools, time, money) you anticipate needing.
- Reflection Response
  - In a single-spaced, 12-point, 2-page maximum piece, please reflect on the DEI readings, the social identities exercises, and the discussions we've had in class so far this semester. Prompts you might consider:
    - How have these issues been relevant in your life before graduate school?
    - How has our work together so far this semester caused you to rethink or think more deeply on these issues?
    - How do you anticipate these issues being relevant in your career (as a graduate student and beyond)?

## **MODULE 5: DATA EXPLORATION: NORMALITY, ESTIMATION, AND HYPOTHESIS TESTING**

Topics to be covered in Module 5 include:

1. Normality and Z-scores
2. Estimation and confidence intervals
3. Hypothesis Testing

Learning objectives for Module 5 include being able to:

1. Recognizing, describing and using the normal distribution; transforming raw scores into Z-scores
2. Understanding and utilizing the concept of estimation; estimating confidence intervals
3. Defining and applying the components of hypothesis testing

### Readings:

Normality:

- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). Social Statistics for a Diverse Society, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
  - Chapter 6 (pp. 169-183)
- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). Social Statistics for a Diverse Society, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
  - Chapter 7 Part II (pp. 206-218)

Estimation:

- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). *Social Statistics for a Diverse Society*, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
- Chapter 8 (pp. 227-239)

Hypothesis Testing:

- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). *Social Statistics for a Diverse Society*, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
- Chapter 9 (pp. 256-276)

M 10/30            Readiness Assurance Process for Module 5

W 11/1            Team Application Exercise – Normality and Z-Scores

**S 11/4            \*\*\*\* Assignment 3 due on Blackboard by 11:59 PM \*\*\*\***

M 11/6            Team Application Exercise – Estimation and Confidence Intervals

W 11/8            Team Application Exercise – Hypothesis Testing / Semester Project Work Time

**S 11/11            Module 5 E-Portfolio due on Blackboard (5:00 PM)**

- Reading Notes for Module 5 RAP
- Semester Project Part 5:
  - *Motivation:* You may never be asked to formally state your hypotheses when tasked with doing research. Doing so, however, helps sharpen your thinking and may even reveal biases you bring to the research.
  - *Task:* For each of your 4 DEI-related research questions write out a hypothesis and in a few sentences explain what the variables are for each question and for the explanatory/predictive questions whether the variable is dependent/independent.
- Semester Project Part 6
  - *Motivation:* So you will have data. But, how will you analyze it?
  - *Task:* For each of your four research questions, present a data analysis plan. The plan should, at a minimum, identify: what variable(s) you will use, what measures of central tendency and dispersion, as well as what types of graphs, you will use to summarize the data, where applicable, what measures of bivariate relationship you will use, and, how you will know if there is a statistically significant relationship.

## **MODULE 6: DATA EXPLORATION: BIVARIATE RELATIONSHIPS AND MEASURES OF ASSOCIATION**

Topics to be covered in Module 6 include:

1. Relationships between two variables (existence, strength and direction)
2. Measures of Association (Pearson's R correlation coefficient, tau, lambda)

Learning objectives for Module 6 include being able to:

1. Consider features of bivariate relationships to assess
2. Interpret commonly-used bivariate statistics
3. Calculate commonly-used measures of bivariate relationships using Excel

Readings:

Bivariate Relationships

- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). *Social Statistics for a Diverse Society*, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
- Chapter 10 (pp. 304-320)

Measures of Association

- Lewis-Beck (1995)
  - pp. 19-30, 35-38
- Frankfort-Nachmias, C. and A. Leon-Guerrero. (2011). *Social Statistics for a Diverse Society*, 6<sup>th</sup> Ed. Los Angeles, Pine Forge Press.
  - Chapter 11 (pp. 338-349)

M 11/13 Readiness Assurance Process for Module 6

W 11/15 Team Application Exercise – Bivariate Relationships

**S 11/18 \*\*\*\* Assignment 4 due on Blackboard by 11:59 PM \*\*\*\***

M 11/20 Team Application Exercise – Bivariate Relationships

W 11/22 No Class – Thanksgiving Break

M 11/27 Team Application Exercise – Chi-Squared

W 11/29 Team Application Exercise – Correlation

**S 12/2 Module 6 E-Portfolio due on Blackboard (5:00 PM)**

- Reading Notes for Module 5 RAP
- Semester Project Part 6 (continued – revise and extend from Module 5 E-Portfolio)
  - *Motivation:* So you will have data. But, how will you analyze it?
  - *Task:* For each of your four research questions, present a data analysis plan. The plan should, at a minimum, identify: what variable(s) you will use, what measures of central tendency and dispersion, as well as what types of graphs, you will use to summarize the data, where applicable, what measures of bivariate relationship you will use, and, how you will know if there is a statistically significant relationship.
- Semester Project Part 7
  - *Motivation:* No one has ever done the perfect research project. It is important to understand and acknowledge the limitations of our research.
  - *Task:* In 1-2 paragraphs identify the limitations of your research project, as outlined so far. The limitations may relate to the scope of the research questions, the available data, the analysis techniques you know so far, and more. (It may be helpful to think back to the three conditions for causality.)

M 12/4 Catch-up

W 12/6 Peer Evaluation and Review for Exam

**S 12/9 \*\*\*\* Assignment 5 due on Blackboard by 11:59 PM \*\*\*\***

T 12/12 7:30-10:00 AM - Final Readiness Assurance Process (Final Exam)

- To prepare for the final exam, please do the following:
  - Read through the list of concepts from the semester handed out the last week of class; put a check by the ones you definitely know well; circle the ones that you can barely or not at all remember; for the ones in the middle, jot down a brief description of the concept
  - Print off, re-read, and bring to class the 2-page maximum reflection piece from earlier this semester.

**T 12/12 \*\*\*\* Semester Project due by 7:30 AM \*\*\*\***

## Resources for Students:

**KU Counseling and Psychological Services (CAPS)** – CAPS can help students with issues related to adjusting to college and other psychological, interpersonal, and family problems. Individual and group sessions are available. You can find more information at <https://caps.ku.edu/> Phone is 785-864-2277 and hours are M, W, F 8-5 and T, H 8-6. CAPS is located in Watkins Memorial Health Center

**KU Office of Multicultural Affairs (OMA)** – OMA provides direction and services for current and prospective students from underrepresented populations. In addition, through collaborative partnerships it offers diversity education programs that foster inclusive learning environments *for all students*. OMA's programs and services enhance the retention of successful matriculation of students, while supporting their academic and personal development. You can find more information at: <https://oma.ku.edu/about> Phone is 785-864-4350 OMA is located in the Sabatini Multicultural Resources Center next to the Union.

**KU Academic Access and Achievement Center (AAAC)** – AAAC offers many services and programs to assist students in their academic success and to enhance their collegiate experience at KU. Choose from learning strategy consultations, group workshops or general or course-specific academic assistance, by appointment or on a walk-in basis. Feel free to talk with AAAC and ask for information or direction about academic and personal issues. You can find more information at: <https://achievement.ku.edu/> Phone is 785-864-4064 The AAAC is located in Rm 22 Strong Hall.

**KU Public Safety** – Public safety is dedicated to providing a safe and secure environment for the thousands of students, faculty, staff and visitors that are on campus each day. Public Safety's website (<https://publicsafety.ku.edu/>) contains practical information that can protect you from becoming a victim of a crime, help you recognize and report suspicious activity, and guide you in the event of an emergency.

**KU Emily Taylor Center for Women & Gender Equity (ETC)** – The ETC provides leadership and advocacy in promoting gender equity and challenge gender-related barriers that impede full access, inclusion, and success. The ETC provides services, assistance, advocacy and support to campus community members of all genders. We also provide consultation, information and resources to Edwards and KUMC campus members, parents of KU students and the community by request. Appointments are recommended, but not necessary. Services are private. In situations involving discrimination and violations of Title IX, ETC staff report information to campus authorities. Center programs and facilities are also accessible to individuals with disabilities. For those requesting accommodations, please contact KU [Student Access Services](#) at 785-864-4064 or [achieve@ku.edu](mailto:achieve@ku.edu). The ETC is located in 4024 Wescoe Hall

**KU Writing Center** - The Writing Center offers a variety of ways for students and members of the community to get feedback on their writing. It offers face-to-face consultations, online appointments, and an eTutoring appointments. Information regarding each type of appointment and a tool for scheduling can be found at <http://writing.ku.edu/> The Writing Center has multiple locations on campus.

**KU Student Involvement & Leadership Center (SILC)** – SILC prepares students to become contributing members of society by providing meaningful co-curricular experiences. **SILC** is responsible for coordinating registered university organizations and providing leadership education experiences for students in addition to providing programs and services to specific target populations including fraternity/sorority members, non-traditional students, and students of all gender identities, gender expressions and sexual orientations. More information can be found at <https://silc.ku.edu/>. A notable program of SILC is the Safe Zone Training, which aims to reduce homophobia, transphobia, and heterosexism on our campus to make KU a safer and freer environment for all members of our community, regardless of sexual orientation, gender identity, or gender expression. By agreeing to become a Safe Zone ally, the participant agrees to undergo training and to serve as a resource for people seeking clarification on issues of sexuality and gender diversity. SILC is located in the Sabatini Multicultural Resources Center.

**Sexual Assault CARE Coordinator** - Watkins Health Services provides support to victims of sexual and domestic violence. [Merrill Evans](#), LCSW, is our CARE (Campus Assistance, Resource, and Education) Coordinator whose primary role is to coordinate support for individuals (both victim and alleged perpetrators)

impacted by sexual violence including incidents of sexual assault, sexual battery, partner violence, dating violence and stalking. The CARE Coordinator is a confidential position and is not required to report incidents to University officials or organizations. If you or someone you know has been affected by any form of sexual violence, please do not hesitate to [contact Merrill](#) or stop by Watkins Health Center Room 2615 during normal business hours. If WHS is closed, the Sexual Trauma & Abuse Care Center is available 24 hours for victim assistance at [785-843-8985](tel:785-843-8985). <https://studenthealth.ku.edu/sexual-assault>

**Sexual Assault Prevention and Education Center (SAPEC)** - SAPEC promotes social change and the elimination of sexual violence through prevention education, inclusive programming, and campus-wide collaboration. SAPEC is located at 116 Carruth O'Leary; Phone 785-864-5879; email: [sapec@ku.edu](mailto:sapec@ku.edu). <http://sapec.ku.edu/>

**Institute of Institutional Opportunity & Access (IOA)** - The Office of Institutional Opportunity and Access (IOA) is responsible for administering the University of Kansas equal opportunity and non-discrimination policies and procedures, as well as, encouraging a campus climate of respect and understanding of all aspects of the human experience. To accomplish these duties, the IOA offers assistance and protective measures to students, faculty, and staff who report acts of harassment, discrimination, sexual misconduct, sexual violence, and retaliation; provides information about health, safety, advocacy, and support resources for members of the Lawrence and Edwards campuses; performs formal investigations to detect, discontinue, and prevent violations of the Non-Discrimination Policy and Sexual Harassment Policy; and ensures University compliance with state and federal civil rights laws. IOA is located at 153A Carruth-O'Leary; Phone 785-864-6414; email: [ioa@ku.edu](mailto:ioa@ku.edu); <http://ioa.ku.edu/>.

#### **Formal KU Policies**

You should be aware of KU's academic policies, available at the KU policy library: academic. While the policies are numerous, key policies to be aware of include:

Academic Misconduct (<http://policy.ku.edu/governance/USRR#art2sect6>),

Final Examination Schedules (<http://policy.ku.edu/governance/USRR#art1sect3>), and

The Grading System (<http://policy.ku.edu/governance/USRR#art2sect2para3>)