

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>COURSE CHANGE REQUEST</b> <b>Graduate Programs</b>		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner _____ Catalog _____
	<b>Department</b> School of Public Administration  <b>College</b> Dorothy F. Schmidt College of Arts and Letters		
<b>Current Course Prefix and Number</b> PAD 6701		<b>Current Course Title</b> Applied Methods I	
Syllabus must be attached for <b>ANY</b> changes to current course details. See <a href="#">Guidelines</a> . Please consult and list departments that may be affected by the changes; attach documentation.			
<b>Change title to:</b> Statistical Analysis for Effective Decision Making <b>Change prefix</b> From: _____ To: _____ <b>Change course number</b> From: _____ To: _____ <b>Change credits*</b> From: _____ To: _____ <b>Change grading</b> From: _____ To: _____ <b>Academic Service Learning (ASL) **</b> Add <input type="checkbox"/> Remove <input type="checkbox"/>		<b>Change description to:</b>  <b>Change prerequisites/minimum grades to:</b>  <b>Change corequisites to:</b>  <b>Change registration controls to:</b>	
* Review <a href="#">Provost Memorandum</a> ** Academic Service Learning statement must be indicated in syllabus and approval attached to this form.		Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.	
<b>Effective Term/Year for Changes:</b> Spring 2022		<b>Terminate course? Effective Term/Year for Termination:</b>	
<b>Faculty Contact/Email/Phone</b> Robin Larson rlarsen2@fau.edu 561-297-4569			
<b>Approved by</b> Department Chair <u>A. Sapat</u> College Curriculum Chair <u>[Signature]</u> College Dean <u>Eric Berlatsky</u> UGPC Chair <u>Christopher Butler</u> UGC Chair <u>Paul K. [Signature]</u> Graduate College Dean <u>[Signature]</u> UFS President _____ Provost _____		<b>Date</b> 9/16/2021 9/27/21 09/27/2021 Oct 22, 2021 Oct 22, 2021 Oct 22, 2021 _____ _____	

Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) 10 days before the UGPC meeting.

**Florida Atlantic University**  
**Dorothy F. Schmidt College of Arts and Letters**  
**School of Public Administration**  
**PAD 6701 (CRN XXXXX) Statistical Analysis for Effective Decision**  
**Making (3 credits), MPA Core Course Spring 202X, DAY TBA, TBA.**  
**Instructional Method: Online Live Lecture**  
**Prerequisite: Undergraduate statistics (earning a C grade or better)**  
**Instructor: TBA**

Office Hours: Anytime via email, TBA via the phone, WebEx, Zoom, SKYPE, or Microsoft Teams

### Course Description (Catalog):

A study of the statistical methods, techniques, and procedures used in the analysis of public sector data, with emphasis on computer analysis. MPA core course.

### Course Description

The ability to perform quantitative analysis has become an essential skill for public administrators and students studying the public sector. The ways in which quantitative data are collected, computed, and interpreted need to be systematic and meaningful for public administrators and citizens. Virtually every facet of the public sector is affected by policy decisions based on the analysis of data, and in order to make informed and evidence-based decisions, it is important to critically evaluate information presented in quantitative form. Hence, Applied Methods I is a study of the statistical methods, techniques, and procedures used in the analysis of public sector data, with emphasis on computer analysis.

This core MPA course seeks to provide students with the analytical tools and practice needed to enhance your ability to understand quantitative data analysis and decision-making methods. Hence, the purpose of this course is to provide a set of technical skills that you can use for empirical work in your professional and academic careers. The topics that we cover include descriptive statistics, inferential statistics, hypothesis testing, contingency table analysis, and regression analysis. Particular attention is paid to the interpretation of statistical analyses and application to policy and administrative problems.

### Course Prerequisites

This course was developed based on the assumption that you have taken an undergraduate lower or upper division course in statistics (or received permission of the instructor). This course is conducted as a master's level course, with only a brief review of basic mathematical concepts. The emphasis of the course material is on learning statistical concepts and applying them to problems in public administration. This course was designed using andragogy assumptions about adult learning, so learning occurs in an experiential way that will ultimately assist with improving your analytical competency level.

### Course Objectives and Learning Outcomes

The objectives of the course are to have students: 1) develop a foundation of research ethics; 2) gain an understanding of the broad application of statistics in government; 3) learn how to develop and test hypotheses; 4) employ tools for collecting and analyzing quantitative data using descriptive and inferential statistics; 5) learn how to interpret descriptive and inferential statistics; 6) understand how to use analysis results in decision-making; 7) discover new ways to complete research via the Internet; 8) apply critical thinking skills; and 9) practice writing skills. By achieving these objectives, we believe students will improve their abilities to: analyze, synthesize, think critically, solve problems, and make decisions in complex

### *COVID-19 Statement*

Due to the surge in COVID-19 cases and the delta variant, all students regardless of vaccination status are expected to wear masks while indoors in any FAU facilities, including classrooms and laboratories. Students experiencing flu-like symptoms (fever, cough, shortness of breath), or students who have come in contact with confirmed positive cases of COVID-19, should immediately contact FAU Student Health Services (561-297-3512). Symptomatic students will be asked to leave the classroom to support the safety and protection of the university community. For additional information visit <https://www.fau.edu/coronavirus/>.

In classes with face-to-face components, quarantined or isolated students should notify me immediately as you will not be able to attend class. I will not be able to offer an online version of the class but will make reasonable efforts to assist students in making up the work.

Vaccinated students have much lower chances of needing to quarantine and a much lower chance of missing class time.

and dynamic environments.

## **Course Requirements**

I hope this course will be a worthwhile learning experience for you, and I believe the following course requirements set a solid foundation for your experience. First, preparation and participation are a part of your grade, but more importantly, will positively affect your learning and our mutual course experience. Preparation and participation are demonstrated by attendance during our live online sessions, by timely preparation of assignments, by asking questions generated by your reading and research, by attentive listening, and by making contributions in our class discussions.

Second, you need to attend every scheduled live online session. If you cannot make it, I expect you to call me or send an e-mail message to me before the live online session begins. You must make up any missed work. You are responsible for arranging make-up work missed because of a legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities.

Third, please read/watch all of the assigned material before our live online sessions. All of our class time will be spent on tactile learning by analyzing data and interpreting results, so it's imperative that you already understand the concepts from the readings and videos.

Fourth, you must successfully complete all of the assignments. There are weekly assignments that are due each Sunday and late work is not accepted (except for a legitimate reason as noted above).

Fifth, please read your FAU email at least twice a week. Please only correspond with me via your FAU email account; don't use Canvas.

Finally, since this course is an Internet-based course, you need to have a working and reliable computer that has Internet access, a program to view video, Adobe Reader, Excel, and Word.

## **Required Texts/Readings (Courses Resources)**

We use various resources for this class. We use expert/government websites as a resource for this course. Most of the articles are PDF so you need to have Adobe Reader. Videos that are embedded in Canvas are another resource we use, so make sure you have software that will allow for video viewing. We do not use a textbook for this course. We use SPSS and Excel to complete our analyses, and both are available as FAU apps (<https://www.fau.edu/oit/virtual-apps/>).

## **Student Accommodations & Support**

The School of Public Administration faculty cares about your academic, professional, and personal success. We want all FAU community members to feel safe and supported, as well as experience a sense of belonging. The faculty supports inclusive learning environments where diverse perspectives are recognized, respected, and seen as a source of strength. We are committed to assisting you with completing your degree in a manner that meets your needs.

Students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs with regard to admissions, registration, class attendance, and the scheduling of examinations and work assignments. This is in accordance with rules of the Florida Board of Education and Florida law. Students who wish to be excused from coursework, class activities or examinations must notify me in advance of their intention to participate in religious observation and request an excused absence, if necessary. A reasonable opportunity to make up such excused absences will be provided.

Students who have concerns about on-campus discrimination or harassment (including sexual harassment) can contact the FAU Equal Opportunity Program for assistance. The Boca office is located in Administration Building Room 291.561.297.4004. The full Nondiscrimination Policy is posted at <http://www.fau.edu/ssw/public/nondiscrim.html>.

These services may be useful to you during your academic career:

1. FAU's Counseling and Psychological Services (CAPS) Center - <http://www.fau.edu/counseling/>
2. Center for Learning and Student Success - <http://www.fau.edu/CLASS/>
3. University Center for Excellence in Writing - <http://www.fau.edu/UCEW/WC/>
4. Tutoring, Study Help, & Academic Support- <http://www.fau.edu/ctl/TutoringStudyHelpAndAcademicSupportStudentResources.php>
5. Career Development Center - <http://www.fau.edu/cdc/>
6. Student Involvement and Leadership - <http://www.fau.edu/sil/>
7. Office of Health and Wellness - <http://www.fau.edu/wellness/index.php>

## Disability Policy Statement

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across all three of FAU's campuses (Boca Raton, Davie, Jupiter) – however disability services are available for students on all campuses. For more information, please visit the SAS website: <http://www.fau.edu/sas/>.

## Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

## Ethical Expectations – Academic Integrity Policy

Though all FAU students are expected to be honorable and ethical in their graded work, it is particularly incumbent upon students and employees in public administration to know, observe, and model the highest ethical standards in this regard. Hence, all of the work you submit must be your original work and the sources you use must be fully documented. When students submit their work via Turnitin and plagiarism has occurred, we will meet to discuss it. Depending on the outcome of that meeting, I will decide if a formal complaint against the student will be filed (see FAU Code of Academic Integrity for process). Plagiarism is a very serious issue and is cause for dismissal from the MPA program and possibly the university.

This part of the FAU Honor Code policy summarizes my expectations, but read the FAU Code of Academic Integrity:

*Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Code 4.001 on Canvas.*

***A claim of ignorance is not an excuse***

## Classroom Policy

Disruptive behavior is defined in the FAU Student Code of Conduct as "... activities which interfere with the educational mission within classroom." Students who behave in the virtual classroom such that the educational experiences of other students are subject to disciplinary action. Such behavior impedes students' ability to learn and my ability to teach. Disruptive behavior includes non-approved use of electronic devices (including cellular telephones), cursing or shouting at others in such a way as to be disruptive, and/or other violations of my expectations for classroom conduct. The use of personal computers, audio recording, or video recording devices during instructional activities in the classroom or laboratories requires my consent. This prohibition does not apply to specific accommodations approved by the FAU Student Accessibility Services.

## Grading System

### *Late Submissions*

As a matter of fairness to students who submit their work on time, late submissions of any work will not be accepted for grading (except for cases related to university-approved activities, religious observances, and medical emergencies).

### *Course Withdrawal Policy*

Any student who decides to withdraw from this course is responsible for completing the proper paper work required to withdraw from the course by the due dates required by FAU. The FAU academic calendar lists the dates for the academic year (<http://www.fau.edu/registrar/registration/calendar.php>).

### *Grading Scale*

**The following is the assignment of points and the grading scale for this course:**

Attendance & Participation	100 points
<u>Assignments</u>	<u>300 points</u>
<b>Total Possible</b>	<b>400 points</b>

375-400 = A	320-335 = B-	268-279 = D+
360-374 = A-	308-319 = C+	256-267 = D
348-359 = B+	296-307 = C	240-255 = D-
336-347 = B	280-306 = C-	39 or less = F

### *Incomplete Grade Policy*

Please note that "incomplete" grades are, by college policy, reserved only for students who are:

1. Performing satisfactory level work on all assignments at the time that the "incomplete" is requested;
2. Earning a passing grade (B or better) at the time that the "incomplete" is requested; and
3. Prevented from completing one or more final assignments by circumstances beyond their control.

Once the incomplete grade is granted, the student must enter into a written contract that outlines the work that must be completed and the due date for completing the work. If the work is not completed, the incomplete grade will automatically become an "F" grade as outlined in the contract, or by one year from the date of the beginning of the semester in which it is earned, or by the end of the grading period prior to graduation, whichever is sooner. It is the student's responsibility to complete the agreed upon assignments in a timely manner.

### *Grade Appeal Process*

A student may request a review of the final course grade when s/he believes that one of the following conditions apply:

1. There was a computational or recording error in the grading;
2. Non-academic criteria were applied in the grading process;
3. There was a gross violation of my grading system; and/or
4. The procedures for a grade appeal may be found in Chapter 4 of the University Regulations.

### **Policy on the Recording of Lectures:**

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

### **Attendance Policy**

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

## Course Outline

- Week 1:**                    **Introduction to Course – Live Lecture Online Session**  
                                  Reading:        1) Kettl, D. F. (2016). Making Data Speak: Lessons for Using Numbers for Solving Public Policy Puzzles. *Governance*.  
                                                                 2) Recommended Student Guidelines: Ethics and Academic Integrity  
                                                                 3) FAU Code of Academic Integrity  
                                  Video:            1) APA Basic Tutorial  
                                  Assignment 1: Short Biography **\*Due by XX Canvas Discussion Board**
- Week 2:**                    **An Overview of the Field of Statistics - Online Session**  
                                  Video:            1) The Beauty of Data Visualization  
                                                                 2) Why Statistics?  
                                                                 3) The Year Open Data Went Worldwide  
                                  Assignment 2: Statistical Associations **\*Due by X/XX Canvas Discussion Board**
- Week 3:**                    **An Overview of Government Statistics - Online Session**  
                                  Reading:        1) Leveraging Technologies in Public Agencies: The Case of the U.S. Census  
                                                                 2) History and Organization of the Census  
                                                                 3) Statistical Programs of the U.S. Government, 2016  
                                                                 4) Government agencies with statistics divisions  
                                  Video:            1) Bureau of the Census – American Community Survey & Testimonials  
                                                                 2) Using American Community Survey Data  
                                  Assignment 3: Government Statistics – **\*Due by X/XX on Canvas Discussion Board**
- Week 4:**                    **The Scientific Method and Research Design - Online Session**  
                                  Reading:        1) Social Science and Its Methods  
                                  Websites:       1) Research Methods Knowledge Base – Research Design  
                                  Video:           1) Not All Scientific Studies are Created Equal
- Week 5:**                    **The Role of Ethics & Human Subjects in Statistical Research - Online Session**  
                                  Reading:        1) The Ethics of Social Research  
                                                                 2) NIH - The Belmont Report  
                                                                 3) NIH - Guidelines for Research Involving Human Subjects  
                                  Websites:       1) Knowledge Base – Ethics  
                                                                 2) FAU Division of Sponsored Research  
                                                                 3) ASA – Ethical Guidelines  
                                                                 4) AAPOR – Code of Ethics  
                                                                 5) WAPOR – Code of Ethics  
                                  Assignment 4: Ethical Frameworks for Statisticians **\*Due by X/XX on Canvas Discussion Board**
- Week 6:**                    **Levels of Measurement, Variables, and Descriptive Statistics – Live Lecture Online Session**  
                                  Reading:        1) Summary of Measures of Association  
                                  Websites:       1) Knowledge Base – Levels of Measurement  
                                                                 2) Concepts and Applications of Inferential Statistics (Measurement & Distributions)  
                                                                 3) StatSoft – Variables  
                                                                 4) Online Statbook – Descriptive Statistics, Measurement, Distributions  
                                  Video:           1) Basic Statistics  
                                                                 2) Introductory Statistics – Chapter 3 Measuring Data  
                                  Assignment 5a: Computing Descriptive Statistics - **Have Excel operational on your computer, download Poverty Database from Canvas and open it in Excel.**

- Week 7: Univariate Analysis and Descriptive Statistics - Online Session**  
 Websites: 1) Online Statbook – Summarizing Distributions & Graphing Distributions  
 2) Knowledge Base – Descriptive Statistics  
 Video: 1) Introductory Statistics – Chapter 2 Presenting Data  
 Assignment 5b: Graphing Descriptive Statistics **Use for 5c, which is due on Canvas by X/XX**
- Week 8: Univariate Analysis and Descriptive Statistics - Online Session**  
 Assignment 5c: Interpreting Descriptive Statistics **\*Due on Canvas by X/XX**
- Week 9: Overview of Inferential Statistics, Sampling, and Statistical Significance & Testing Hypotheses – Online Session**  
 Websites: 1) Knowledge Base – Inferential Statistics and Sampling  
 2) Online Statbook – Inferential Statistics, Sampling, Hypotheses  
 3) Measures of Association Summary  
 4) HyperStat – The Logic of Hypothesis Testing  
 Video: 1) Probability  
 2) Contingency Tables  
 3) Hypothesis Testing  
 4) Chi Square  
 Assignment 6a: Decide on hypotheses to test **\*Due on Canvas by X/XX**
- Week 10: Contingency Tables and Measures of Association – Live Lecture Online Session**  
 Assignment 6b: Computing Contingency Tables and Measures of Association - **Have SPSS operational on your computer, download and open SPSS database from Canvas**
- Week 11: Contingency Tables and Measures of Association - Online Session**  
 Assignment 6c: Interpreting and Applying Contingency Tables and Measures of Association  
**\*Due on Canvas by X/XX**
- Week 12: Overview of Correlation and Multiple Regression – Live Lecture Online Session**  
 Websites: 1) HyperStat – Scatterplots and Pearson Correlation  
 2) StatSoft – Correlation  
 Video: 1) Intro to Linear Regression  
 2) Bivariate Regression in SPSS/PASW  
 3) Multiple Regression in SPSS/PASW  
 Assignment 7a: Computing Correlation Analysis, Scatterplots, and Regression Analysis  
**Have SPSS operational on your computer, download and open SPSS database from Canvas**
- Week 13: Correlation and Scatterplots - Online Session**  
 Website: 1) Online Statbook – Correlation Demonstration  
 Video: 1) Scatterplots and Correlation  
 Assignment 7b: Interpreting Correlation and Regression Analyses  
**Use for 7c, which is due on Canvas by X/XX**
- Week 14: Ordinary Least Squares Regression - Online Session**  
 Website: 1) StatSoft – General Linear Models  
 Video: 1) Regression Analysis Statistics Parts I and II  
 Assignment 7c: Applying Correlation & Regression Results **\*Due on Canvas by X/XX**
- Week 15: Reading Day – No Class Session**
- Week 16: Assessment of Analytical Outcomes – Online Session**  
 Assignment 8: Assessing your analytical skills **\*Due on Canvas by X/XX**