

**AEC 6932 Statistical Thinking in Behavioral Sciences
Fall 2020 (August 31 – December 9); 3 Credits; Online**

Instructor:

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-Office hours: By appointment

Course Delivery:

This course is offered online, and it is housed in Canvas, the University of Florida's e-learning platform. You can access this e-learning platform by directing your browser to elearning.ufl.edu and clicking on "Log in to e-Learning". When prompted, enter your Gatorlink ID and password to log in the system. You can learn more about using Canvas here: <https://elearning.ufl.edu/keep-learning/>.

Course Organization:

Within Canvas, the course is organized by weekly modules. Each module will officially begin on the Monday of each week, unless different instructions are provided, students may complete the coursework at their own pace within this weekly timeframe. The course homepage can be accessed 24 hours a day and contains everything you will need to complete this course, including: the syllabus, details for completion of every assignment, course information, tools for communicating with the instructor and other students, etc. A weekly learning module typically contains: 1) the topic and learning objectives for the week; 2) a list of assigned readings from your required textbook and/or additional sources; 3) recorded lectures and handouts; and, 4) information about assignments and/or discussion questions that are due that week (see: "[A note about on-line participation](#)").

Course Description:

This is an introductory course designed to present basic fundamentals and statistical procedures to agriscience teachers, extensionists, and other educators or practitioners within agriculture and natural resources. It is designed to assist students in becoming better consumers of research. Statistical topics and techniques covered during this semester include descriptive statistics, measures of central tendency and variability, probability, statistical inference and hypothesis testing, parametric and nonparametric testing, and multivariate techniques (partial correlation and multiple regression).

Objectives:

Upon successful completion of the course requirements, students will...

- become familiar with the basic concepts, methods, and procedures of statistical analysis in the social sciences, as well as the logic underlying those procedures;
- acquire statistical literacy (to be able to explain the differences among various statistical techniques and identify an appropriate technique for a given set of variables and research questions); and,
- learn how to apply their knowledge of statistics in thinking critically about scholarly research and popular press reports of data and research.

Students interested in developing additional skills related to the statistical analysis of quantitative data, can obtain relevant hands-on experience by utilizing the datasets, examples, and detailed descriptions that are included in the required textbook for the course. The book provides step-by-step instructions for conducting statistical analyses with both Microsoft Excel and the Statistical Package for the Social Sciences (SPSS); these two applications are available to the University of Florida's students through: <https://apps.ufl.edu/vpn/index.html>. The instructor will provide a space in the course's website for students to share and discuss their experiences with the different data analysis techniques. This is not a required activity of the course.

Required Textbook and Readings:

Students are expected to purchase the text (available at the University of Florida Bookstores or at online providers):

- Frankfort-Nachmias, C., Leon-Guerrero, A., and Davis, G. (2020). *Social Statistics for a Diverse Society*. (9th Ed). Thousand Oaks, CA: Sage. ISBN: 9781544339733 [paperback or electronic versions are acceptable]
-- Supplementary readings (i.e., journal articles) will be assigned to demonstrate the application of key concepts covered in the textbook and lecture of the week.

Class Dynamics:

Since the social construction of knowledge is a key component of this course, class participation is a chief expectation from students; this will be achieved through transformative dialogue in the form of online group discussion. All students are expected to actively participate in the discussion board forums. The course instructor will monitor the on-line discussion forums (see: "[A note about on-line participation](#)"). Each week students are expected to complete the assigned reading, review any recorded lectures that might be posted, and submit the required assignment(s).

A note about online participation

The course discussion board provides a venue to increase interaction. Students must post their comments, read the postings of other students (the system does not allow reading other posts before posting your own comments), and respond to other students' comments (you have to respond to the comments of, at least, another student). Points for this assignment are awarded based both on the student's participation and the appropriateness/applicability of the contribution to the assigned discussion topic. Failure to be engaged in

the sharing of ideas not only limits the value you gain from this course, but also what others may obtain from it.

Just like in any social setting, there are expected norms that should guide the different types of interactions that, as a group, we will have in this course. To ensure that you, and everybody else in this course, has a satisfactory and productive experience as we interact during the semester, please read and follow the guidelines included in the [Netiquette Guide for Online Courses](#). That same document also contains relevant information related to **privacy and security** practices that you must follow. You can obtain further information and support related to technology requirements and online security and privacy from the [UF Computing Help Desk](#).

Assignments, Dates, Grades, and Feedback:

Full descriptions of each activity/assignment are posted within the Assignments section of the course site in Canvas. Please see the section on “[A note about written reports](#)” to become familiar with the general instructions for written assignments.

| <i>Activity/Assignment</i> | Due Date | Total Point Value |
|-----------------------------------|--------------------------|--------------------------|
| <i>Bio-sketch</i> | 09/05/2020 | 40 |
| <i>Discussion Board Posts (8)</i> | Multiple | 160 (20 each) |
| <i>Key Concepts (4)</i> | 1 st 09/26/20 | 100 |
| | 2 nd 10/17/20 | 100 |
| | 3 rd 11/14/20 | 100 |
| | 4 th 12/05/20 | 100 |
| <i>Exams (2)</i> | Midterm 10/24/20 | 200 |
| | Final 12/09/20 | 200 |
| Total Points | | 1000 |

The instructor will complete the grading process and post grades within 7 business days from the due date specified in the syllabus for each activity/assignment. The points obtained by the student in all the assignments will be added to calculate the final grade, the calculation will be done in alignment with the Course Grading Scale shown below. For additional information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Grades will be posted on Canvas where students can securely and privately access them. Please carefully read the whole syllabus for information on additional university’s policies and services relevant to grades and grading – contact the instructor if further information is required.

Course Grading Scale

| | | | | | |
|----------|----------|-----------|---------|-----------|-------------|
| A | 940-1000 | A- | 900-939 | B+ | 870-899 |
| B | 840-869 | B- | 800-839 | C+ | 770-799 |
| C | 740-769 | C- | 700-739 | D+ | 670-699 |
| D | 640-669 | D- | 610-639 | E | 609 or less |

When posting grades, the instructor will include clear, concise, and relevant written and/or verbal feedback to further promote students' learning. If additional clarification is required by the student, the instructor can be contacted via email to schedule an individual phone or Zoom call to discuss the assignment, grade, and feedback provided. Students are strongly encouraged to contact the instructor with any questions they may have related to the course content, activities, and assignments. Email consultations will normally be responded within 24 hours.

Course Schedule

| Date | Week: Topic | Readings* | Due |
|-------------|--|---|-------------------------|
| 08/31-09/05 | 1: Course Introduction. | | <i>Bio-sketch</i> |
| 09/07-09/12 | 2: The What and the Why of Statistics. | SS4aDS: Ch. 1; Additional readings | <i>Discussion 1</i> |
| 09/14-09/19 | 3: The Organization and Graphic Presentation of Data. | SS4aDS: Ch. 2; Additional readings | <i>Discussion 2</i> |
| 09/21-09/26 | 4: Measures of Central Tendency. | SS4aDS: Ch. 3; Additional readings | <i>1st Key Concepts</i> |
| 09/28-10/03 | 5: Measures of Variability. | SS4aDS: Ch. 4; Additional readings | <i>Discussion 3</i> |
| 10/05-10/10 | 6: The Normal Distribution. | SS4aDS: Ch. 5; Additional readings | <i>Discussion 4</i> |
| 10/12-10/17 | 7: Sampling and Sampling Distributions. | SS4aDS: Ch. 6; Additional readings | <i>2nd Key Concepts</i> |
| 10/19-10/24 | 8: | --- Midterm Exam --- | |
| 10/26-10/31 | 9: Estimation. | SS4aDS: Ch. 7; Additional readings | <i>Discussion 5</i> |
| 11/02-11/07 | 10: Testing Hypotheses. | SS4aDS: Ch. 8; Additional readings | <i>Discussion 6</i> |
| 11/09-11/14 | 11: Bivariate Tables. | SS4aDS: Ch. 9; Additional readings | <i>3rd Key Concepts</i> |
| 11/16-11/21 | 12: The Chi-Square Test and Measures of Association. | SS4aDS: Ch. 10; Additional readings | <i>Discussion 7</i> |
| 11/23-11/28 | 13: Analysis of Variance. | SS4aDS: Ch. 11; Additional readings | <i>Discussion 8</i> |
| 11/30-12/05 | 14: Regression and Correlation. | SS4aDS: Ch. 12; Additional readings | <i>4th Key Concepts</i> |
| 12/07-12/09 | 15: | --- Final Exam --- | |

* **SS4aDS** = Social Statistics for a Diverse Society (required textbook).

A note about written reports:

Cite all references using APA style format. APA (American Psychological Association) has a reference manual available at the University of Florida Library and they have information about writing and

references on their website, which is <http://www.apa.org/>. The format to be used for papers is double-spacing; one-inch margins, and typed in 12-point font, unless otherwise noted.

A consistent style is used for grading written papers. Primarily, show that you have learned and are able to apply the course material through your writing. In grading, the instructor looks for student's cognitive understanding and application of theories, principles, concepts, ideas, and approaches that have been covered in readings and the course. More detailed rubrics are included in the descriptions of each assignment.

Attendance:

Given the importance of class discussion and participation, it is not possible for a student to perform satisfactorily in the course without regularly contributing to the planned activities and assignments. Students are **required** to be active in the course throughout the semester. Only documented doctor's excuses or UF-approved activities will be excused.

Lateness Policy:

A *10% per day* deduction will be assessed for assignments turned in late. Work more than a week late will *not* be accepted. This policy will be strictly enforced. All assignment and online discussion deadlines are *critical* for your individual success in this course and the success of the course overall. If you feel that you will be unable to meet these deadlines, you *must* communicate this to the course instructor *at least one day before the assignment or discussion posting is due.*

Absences and Make-Up Work

Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Course Evaluation

To enhance the quality and effectiveness of the course, both for current and future students, the instructor conducts a mid-term course evaluation. This is done through a short and anonymous survey that students are encouraged to respond. The survey asks students to identify those aspects/elements of the course that are: 1) working well and should not be changed; 2) not working well, but could be improved with suggestions provided by the students; and, 3) not working well, and should be discontinued/replaced. Students can also provide additional comments and suggestions aimed at improving the course.

Towards the end of the semester, students are also expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. [Click here for guidance on how to give feedback in a professional and respectful manner.](#) Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. [Summaries of course evaluation results are available to students here.](#)

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: “*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*”

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.

Software Use:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university’s counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *U Matter, We Care*: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit umatter.ufl.edu/ to refer or report a concern and a team member will reach out to the student in distress.
- *Counseling and Wellness Center*: Visit counseling.ufl.edu/ or call 352-392-1575 for information on crisis services as well as non-crisis services.
- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit shcc.ufl.edu/.
- *University Police Department*: Visit police.ufl.edu/ or call 352-392-1111 (or 9-1-1 for emergencies).

- *UF Health Shands Emergency Room / Trauma Center*: For immediate medical care, call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; ufhealth.org/emergency-room-trauma-center.
- *Career Connections Center*, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Services for Students with Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. [Click here to get started with the Disability Resource Center](#). It is important for students to share their accommodation letter with the instructor and discuss their access needs, as early as possible in the semester.

Disclaimer about syllabus:

Serious effort and consideration were used in formulating the syllabus presented by the instructor. While viewed as an educational contract between the instructor and student, unforeseen events may cause changes to the scheduling of assignments, readings, etc. The instructor reserves the right to make any changes deemed necessary to best fulfill the course objectives. Students registered for this course will be made aware of any changes in a timely fashion using reasonable means. This disclaimer does not abrogate any student rights as described by University rules and regulations.