



**EDUC 614: Education Statistics**  
**Winter 2020, CRN 27215, 3 Credits**  
**College of Education, University of Oregon**

### General Course Information

**Instructor:** Amanda Griffin, PhD

**Office:** Prevention Science Institute, Suite 105

**E-mail:** [agriff1@uoregon.edu](mailto:agriff1@uoregon.edu)

**Class Time:** Wednesday, 4 - 6:50pm

**Class Location:** 220 HEDCO

**Office Hours:** Monday, 1-2pm 368 HEDCO

### Course Overview

This course covers the basic statistical principles, procedures, and interpretations for conducting statistical analyses in the behavioral sciences to provide an understanding of what is involved in analyzing data. The course will offer introductory coverage of descriptive and inferential statistics through the use of SPSS. The main emphasis is on the practical use of data analysis techniques and interpretations. Course topics include data description, central tendency and variability, statistical inference, and significance tests to compare means and conduct analyses of correlation and regression.

### Student Learning Objectives

Through the successful completion of this course, students will:

- Develop knowledge and critical understanding of fundamental issues related to methodology and the application of various statistical tools.
- Develop basic skills in using SPSS for data entry, data management, and data analysis.
- Learn to appropriately interpret the output of statistical software and analyses and to communicate effectively with others regarding results and conclusions.
- Learn problem-solving and critical thinking skills.
- Be prepared to take more advanced statistics courses, such as analysis of variance and multiple regression models.

### Course Format

Class will typically begin with a lecture/presentation. The lecture portion of the class will last approximately 60 to 80 minutes, followed by a brief break. The second half of each class will be comprised of an in-class activity. The course is divided into four units that build upon one another.

- The Foundations of Statistics unit covers basic descriptive statistics, including the concepts of variable types, how to graph data, measures of central tendency, measures of variability, and the normal distribution.
- The Mean Differences unit introduces the concept of inferential statistics. The unit includes the concept of sampling distributions and the principal of hypothesis testing. It also covers procedures to (1) compare a sample mean to a particular fixed value (e.g., one-sample t-test), (2) comparing two independent sample means (e.g., independent-sample t-test), and (3) comparing two paired sample means (e.g., paired-sample t-test).
- The Correlation and Regression unit presents the basics of testing bivariate relationships (i.e., relationships between two continuous variables). The unit covers the correlation coefficient and the regression model with one or two predictors.

- The ANOVA unit will cover methods that examine group differences using more than two groups, including post-hoc tests. The unit will introduce methods to test multiple effects and interactions (2-way ANOVA) and methods for longitudinal data (RM-ANOVA).

### Required Material

- **Textbook:** Morgan, G. A., Leech, N. L., Gloeckner, G. W., & Barret, K. C. (2012). IBM SPSS for introductory Statistics (5th ed.). New York: Routledge.
  - Available as an e-book through the University of Oregon library
- **Software:** You will have access to SPSS. You can access SPSS for free in a U of O computer lab or on a University-owned computer (see <https://it.uoregon.edu/software/spss>). To purchase or rent a copy of SPSS for a non-UO computer, go to <https://estore.onthehub.com/> and click the link for IBM SPSS and then select the link for Statistics Grad Pack (Standard Edition). You do NOT need AMOS.
- **Technology:** You will be required to use a computer for class assignments.
- **Recommended:** Field, A. (2013). Discovering statistics using IBM SPSS statistics. sage.

### Tentative Course Schedule

Class	Lecture Topic & Reading	Assignments Due	Reading
Week 1 1/8	Foundations: Introduction		Chapter 1,2
Week 2 1/15	Foundations: Measures of Center Foundations: Measures of Shape Foundations: Measures of Spread Foundations: The Normal Distribution In-class Activity <i>due next week</i>	<i>Week 1 HW</i>	Chapter 3,4
Week 3 1/22	Mean Differences: Sampling Distributions Mean Differences: Confidence Intervals	<i>Week 2 HW</i> <i>Matching HW</i>	Chapter 6
Week 4 1/29	Mean Differences: Hypothesis Testing Mean Differences: Critical Value vs. p value In-class Activity <i>due next week</i>	<i>Week 3 HW</i> <i>Quiz 1</i>	Chapter 6
Week 5 2/5	Mean Differences: Independent-sample t-test Mean Differences: Paired-sample t-test Mean Differences: Confidence Intervals Mean Differences: Effect Sizes In-class Activity <i>due next week</i>	Quiz 2 <i>Week 4 HW</i>	Chapter 10.1, 10.2, 10.4
Week 6 2/12	Correlation/Regression: Correlation Correlation/Regression: Regression In-class Activity <i>due next week</i>	<i>Week 5 HW</i>	Chapter 9
Week 7 2/19	Correlation/Regression: Multiple Regression Correlation/Regression: Contingency Tables	<i>Week 6 HW</i>	Chapter 8.1
Week 8 2/26	Correlation/Regression: Moderation	Quiz 3 <i>Week 7 HW</i>	Chapter 11.4
Week 9 3/4	Correlation/Regression In-class Activity <i>due next week</i>	<i>Week 8 HW</i>	Chapter 11.4

Week 10 3/11	Catch-up Day	Quiz 4	
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### Grading Components and Criteria

- 1) **Class Participation** (50 pts): Active engagement is a major part of learning. As a class (i.e., students and instructor included), we should consider our time together as an opportunity to challenge one another through constructive discussion and responsive engagement with class topics. To fully participate in class, all students are expected to demonstrate “mental presence.” Mental presence implies that students are expected to be self-motivated, eager to learn, and willing to take responsibility for their own learning and as appropriate, facilitating the learning of others. Students should bring their computer and any needed reading materials to class to help facilitate discussion.
- 2) **In-Class Assignments** (5 pts each): Regular in-class activities will be assigned to promote competence and hands-on experience with the various statistical and methodological tools discussed. Likewise, these assignments are also intended to encourage attendance and active engagement. Thus, as the name implies, in-class assignments can only be completed in class to receive full-credit. There will be no make-ups for these activities.
- 3) **Weekly Homework** (~15 pts): Regular homework assignments will be assigned to promote competence and hands-on experience with the various statistical and methodological tools discussed
- 4) **Research Article Critique** (20 pts): Student will be responsible for writing an article critique of using some of the methods taught in this class. Students will select a research paper and submit it by (Week 5) and write-up a 3 to 5 pages (double-spaced) critique that will cover the following points:
  - What is your **REASON** for choosing this particular journal article for critical review?
  - What **QUESTION(S)** did the study address?
  - What **METHOD** was used to carry out the research?
  - What were the major **RESULTS** and **CONCLUSIONS** of the research study? (note: these separate points)
  - How could the findings from this research **APPLY** to your work?
  - What are the **STRENGTHS** and **WEAKNESSES** of the study?
  - What biases are present in the research (acknowledged or unacknowledged by the authors)?
  - Are there issues with internal or external validity? Overall, do you believe the authors’ claims?

### Summary Point Scores

Assignments	Due Date	Points
Quiz	1/22; 2/5; 2/26; 3/11	40
Weekly Homework	Each Week	120
Research Article Critique	March 20th	20
In-class Assignment	Each Week	20
Course Participation	All classes	50
<b>TOTAL</b>		<b>250</b>

**Grade Percentage Cutoffs (grade rounding 0.5 applied):**

A+ = 98 - 100%	A = 93 - 97%	A- = 90 - 92%
B+ = 88 - 89%	B = 83 - 87%	B- = 80 - 82%
C+ = 78 - 79%	C = 73 - 77%	C- = 70 - 72%
D+ = 68 - 69%	D = 63 - 67%	D- = 60 - 62%
	F = Below 60	

**Student Engagement Inventory (3 credit course = 120 hours)**

<b>Educational Activity</b>	<b>Hours Student Engaged</b>	<b>Explanatory comments</b>
Course Attendance	40	4 hours/week
Assigned Readings	20	~2 hours/week
Homework	5	
Research Article Critique	15	
<b>TOTAL</b>	<b>130</b>	

**Expected Classroom Behavior**

1. Class participation: All students are expected to participate fully in class discussion.
2. Cell phones: Cell phone usage is not permitted in class.
3. Laptops/Tablets: Laptops should only be used for class activities.
4. Late policy: After 5:00 pm on the due date, 5% of the points possible for that submission will be deducted for every 24-hour period thereafter until the assignment is received -- after five days no writing assignment will be accepted for credit.

**E-Mail Etiquette**

To ensure that I receive your e-mail and am able to respond in a timely fashion, you should include the course title and section (i.e., **EDUC 614**) in the subject line of your e-mail and sign your e-mail with your full name and use your UO account. E-mail with an instructor is a professional communication. Please be clear and courteous, and use the writing style you would use in an informal paper.

**Attendance and Absence Guidelines**

You are responsible for attending all classes, arriving on time, and for notifying the instructor in advance of potential excused absences. I encourage you to think of class time as a mutual appointment that we have made with each other. I will value your time by ensuring that I am present and engaged each day and hope that you will do the same.

In the event that there are days that this sentiment does not suffice and you require additional external motivation to attend, please note the emphasis on attendance and participation outlined in the "Grading Components and Criteria" section.

## Expectations for Professionalism

Please see the sections on ethics, conduct, and related issues. You are expected to participate actively. Inattention, disruption, lateness, or other unprofessional behavior as determined by the instructor is sufficient grounds for removal from the course with a failing grade.

You must reference your sources in essay responses and use quotation marks for direct quotes. Plagiarism and disallowed collaboration are serious academic offenses and will be managed accordingly. You may not collaborate unless **explicitly** required or permitted to do so. Sharing information from this class with other class members is permitted only when this does not violate standards of academic honesty. No recording is permitted without prior approval from the instructor. You may not repost the instructor's materials (PowerPoints, worksheets, etc.) without permission from the instructor. Posting, selling or otherwise sharing class or exam notes will be treated as academic dishonesty.

## Additional Course Requirements

Please save or print a copy of this syllabus. Electronic readings will be posted on the online course learning platform. If you are having trouble accessing or using the online class learning platform from off-campus, try using a different browser. If you are having trouble downloading PDFs, try using a PC (not Mac).

You are responsible for keeping copies of all of your work until after you are satisfied with your final grade. This may mean making an electronic backup of all assignments completed on the computer (or e-mailing yourself a copy that can be retrieved if your computer crashes), keeping graded work until after the class is over, or keeping a copy of any e-mail you send and receive related to the course.

## Ethics and Academic Standards

This course may involve opportunities for self-disclosure. It is possible that a student colleague may say something personally important and private in your discussions. It is an expectation, as well as sound professional practice, that you maintain that person's privacy and trust. However, please keep in mind the legal limits to privacy, and refer to your ethics code. If you feel that a breach of ethics or the law has occurred, discuss this with your instructor immediately. Please review the mandatory reporting and the Title IX policies in this syllabus. **Participation in this class does not confer confidentiality.**

## Diversity, Equity, and Inclusion

It is the policy of the University of Oregon to support and value equity and diversity and to provide inclusive learning environments for all students. To do so requires that we:

- respect the dignity and essential worth of all individuals regardless of national origin or citizenship status.
- promote a culture of respect throughout the University community.
- respect the privacy, property, and freedom of others.
- reject bigotry, discrimination, violence, or intimidation of any kind.
- practice personal and academic integrity and expect it from others.
- promote the diversity of opinions, ideas and backgrounds which is the lifeblood of the university.

In this course, class discussions, projects/activities and assignments will challenge students to think critically about and be sensitive to the influence, and intersections, of race, ethnicity, nationality, language, religion, gender, socioeconomic background, physical and cognitive ability, sexual orientation, and other cultural identities and experiences. Students will be encouraged to develop or expand their respect and understanding of such differences.

Maintaining an inclusive classroom environment where all students feel able to talk about their cultural identities and experiences, ideas, beliefs, and values will not only be my responsibility, but the responsibility of each class member as well. Behavior that disregards or diminishes another student will not be permitted for

any reason. This means that no racist, ableist, transphobic, xenophobic, chauvinistic or otherwise derogatory comments will be allowed. It also means that students must pay attention and listen respectfully to each other's comments.

Resources for diverse students can be found here: <http://dos.uoregon.edu/community>. Resources for undocumented and DACAmented students may be found at: <https://blogs.uoregon.edu/dreamers/>.

## **Documented Disability**

Appropriate accommodations will be provided for students with documented disabilities. If you have a documented disability and require accommodation, arrange to meet with the course instructor within the first two weeks of the term. The documentation of your disability must come in writing from the Accessible Education Center in the Office of Academic Advising and Student Services. Disabilities may include (but are not limited to) neurological impairment, orthopedic impairment, traumatic brain injury, visual impairment, chronic medical conditions, emotional/psychological disabilities, hearing impairment, and learning disabilities. For more information on Accessible Education Center, please see <http://aec.uoregon.edu>

## **Mandatory Reporting of Child Abuse**

UO employees, including faculty, staff, and GEs, are mandatory reporters of child abuse. This statement is to advise you that that your disclosure of information about child abuse to a UO employee may trigger the UO employee's duty to report that information to the designated authorities. Please refer to the following links for detailed information about mandatory reporting: <http://hr.uoregon.edu/policies-leaves/general-information/mandatory-reporting-child-abuse-and-neglect>

## **Reporting Title IX Experiences**

Any student who has experienced sexual assault, relationship violence, sex or gender-based bullying, stalking, and/or sexual harassment may seek resources and help at [safe.uoregon.edu](http://safe.uoregon.edu). To get help by phone, a student can also call either the UO's 24-hour hotline at 541-346-7244 [SAFE], or the non-confidential Title IX Coordinator at 541-346-8136. From the SAFE website, students may also connect to Callisto, a confidential, third-party reporting site that is not a part of the university.

Students experiencing any other form of prohibited discrimination or harassment can find information at [respect.uoregon.edu](http://respect.uoregon.edu) or [aaeo.uoregon.edu](http://aaeo.uoregon.edu) or contact the non-confidential AAEO office at 541-346-3123 or the Dean of Students Office at 541-346-3216 for help. As UO policy has different reporting requirements based on the nature of the reported harassment or discrimination, additional information about reporting requirements for discrimination or harassment unrelated to sexual assault, relationship violence, sex or gender based bullying, stalking, and/or sexual harassment is available at <http://aaeo.uoregon.edu/content/discrimination-harassment>

Specific details about confidentiality of information and reporting obligations of employees can be found at <https://titleix.uoregon.edu>. The instructor of this class is a "Student-Directed Reporter." This means that instructors will direct students who disclose sexual harassment or sexual violence to resources that can help and will only report the information shared to the university administration when the student requests that the information be reported (unless someone is in imminent risk of serious harm or a minor). Instructors are required to report all other forms of prohibited discrimination or harassment to the university administration.

## Academic Misconduct Policy

All students are subject to the regulations stipulated in the UO Student Conduct Code (<http://conduct.uoregon.edu>). This code represents a compilation of important regulations, policies, and procedures pertaining to student life. It is intended to inform students of their rights and responsibilities during their association with this institution, and to provide general guidance for enforcing those regulations and policies essential to the educational and research missions of the University.

## Conflict Resolution

Several options, both informal and formal, are available to resolve conflicts for students who believe they have been subjected to or have witnessed bias, unfairness, or other improper treatment.

It is important to exhaust the administrative remedies available to you including discussing the conflict with the specific individual, contacting the Department Head, or within the College of Education, fall term you can contact the Associate Dean for Academic Affairs and Equity (Krista Chronister, 346-2415, [kmg@uoregon.edu](mailto:kmg@uoregon.edu)). For winter, spring and summer terms you can contact the Interim Associate Dean for Academic Affairs (Lillian Duran, 346-2502, [lduran@uoregon.edu](mailto:lduran@uoregon.edu)). Outside the College, you can contact:

- UO Bias Response Team: 346-3216 <http://bias.uoregon.edu/whatbrt.htm>
- Conflict Resolution Services 346-3216 <http://studentlife.uoregon.edu/support>
- Affirmative Action and Equal Opportunity: 346-3123 <http://aaeo.uoregon.edu/>

## Grievance Policy

A student or group of students of the College of Education may appeal decisions or actions pertaining to admissions, programs, evaluation of performance and program retention and completion. Students who decide to file a grievance should follow University student grievance procedures (<https://policies.uoregon.edu/grievance-procedures>) and/or consult with the College Associate Dean for Academic Affairs (Lillian Duran, 346-2502, [lduran@uoregon.edu](mailto:lduran@uoregon.edu)).

## In Case of Inclement Weather

In the event the University operates on a curtailed schedule or closes, UO media relations will notify the Eugene-Springfield area radio and television stations as quickly as possible. In addition, a notice regarding the university's schedule will be posted on the UO main home page at <https://www.uoregon.edu/>. Additional information is available at <https://hr.uoregon.edu/about-hr/campus-notifications/inclement-weather>

If an individual class must be canceled due to inclement weather, illness, or other reason, a notice will be posted on Canvas or via email. During periods of inclement weather, please check Canvas and your email rather than contact department personnel. Due to unsafe travel conditions, departmental staff may be limited and unable to handle the volume of calls from you and others.

## Course Incomplete Policy

Students are expected to be familiar with university policy regarding grades of "incomplete" and the time line for completion. For details on the policy and procedures regarding incompletes, please see: <https://education.uoregon.edu/academics/incompletes-courses>

**Student Resource**

**Safe Ride** is an **assault prevention shuttle** that works to provide free, inclusive, and accessible alternatives to traveling alone at night for **UO students, faculty, and staff**.

We are a schedule-ahead service and riders can (1) call once we open to schedule a ride with a dispatcher or (2) leave a voicemail on the day of their ride request. We do not call riders ahead of time to confirm due to capacity constraints, but riders are always welcome to call us to double-check that their ride was scheduled. We are a, ‘for-the-students/by-the-students’ organization and operate out of the Women’s Center in EMU 12F.

**Operating hours:**

Fall/Winter term	Sunday - Thursday   6p - midnight Friday + Saturday   6p - 2a
Spring term	Sunday - Thursday   7p - midnight Friday + Saturday   7p - 2a
Summer term	Sunday - Thursday   9p - midnight Friday + Saturday   9p - 2a

**Policy and rules:**

- 1. We are a **schedule-ahead service**, we **do not call ahead**, and we can only wait for riders for 5 minutes at their pick-up time and location.
- 2. We only give rides to groups of **3 or less** to prioritize groups that are at higher risk.
- 3. We are a **free service** and do not accept tips.