

PS/CJ 3115 -101 RESEARCH METHODS - FALL 2021



Online Asynchronous

Instructor: Tatyana B. Ruseva

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Office hours: Tue 2:30-3:15 pm
and [by appointment](#)

Class platforms: AsUlearn & Zoom

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Appointment calendar:

<https://rusevatb.youcanbook.me>

Course Objectives

The objective of this course is to provide you with the ability to effectively use and interpret quantitative data. While a majority of the course will be devoted to readings, assignments, and quizzes, your engagement with the material is crucial and highly encouraged. The course requires substantial effort and discipline in the form of reading, homework, and participation. The material covered in this class is cumulative in nature. *Be aware that neglecting one section/lesson will negatively impact your ability to handle subsequent material.* By the end of the course, students should be able to:

- formulate research questions and hypotheses
- explain differences between experimental and observational studies
- describe, present, and analyze quantitative data
- use tests of statistical significance to answer questions and test hypotheses

Course Format & Platform

This is an online asynchronous course.

You will receive course content and participate in this class using the following tools:

- **AsUlearn page for PS3115-102** - for course materials, assignments, exams and asynchronous discussions. This page is for both the CJ and PS sections of the course.
- **AsUlearn page for CJ3115-201 Laboratory** - for lab assignments.

Learning the material in this course involves:

- (1) First reading the assigned reading and video material, followed by
- (2) Completion of the VoiceThread Lesson and other practice activities for that lesson, and
- (3) Completing the corresponding assignments (in-class quiz, discussion forum, or project).

Texts and Course Materials

1. [NS] Wheelan, Charles. 2013. [*Naked Statistics: Stripping the Dread from the Data*](#). W. Norton & Company. ISBN: 978-0393071955. (Also available in an audible format) **[required]**
2. [AsULearn] Other readings & videos posted on *AsULearn*, including:
 - a. [Against All Odds: Inside Statistics](#) Video series
 - b. [Online Statistics Education by David Lane](#)
 - c. [Statistics every writer should know](#)
 - d. [Khan Academy Statistics & Probability](#)

Online Office Hours

My personal Zoom page is: <https://appstate.zoom.us/j/8282628238>

I am available to meet via Zoom on Monday, Wednesday, and Thursday. To schedule an appointment go to: <https://rusevatb.youcanbook.me>

Grading Policies

Grading Scale

97 -100 = A+	93 - 96.9 = A	90 - 92.9 = A-	87 - 89.9 = B+
83 - 86.9 = B	80 - 82.9 = B-	77 - 79.9 = C+	73 - 76.9 = C
70 - 72.9 = C-	67 - 69.9 = D+	63 - 66.9 = D	60 - 62.9 = D- <59.9=F

Grade Distribution

Your final grade will be the weighted mean of all grades received on the following components.

<u>Component</u>	<u>Percent</u>
Exam 1	15%
Exam 2	20%
Labs	20%
Projects (3 total)	15%
Quizzes	15%
Weekly Lessons	10%
<u>Forum participation</u>	5%
Total	100%

Course Outline

I reserve the right to make changes. Students will be notified of all changes via AsUlearn.

MODULE 1 - Weeks 1, 2, 3

Lesson/ Date	Topic	Assignments
Lesson 1 Aug 16-20	Research questions, concepts, and variables	Quiz 1, Lab 1-install Excel
Lesson 2 Aug 23-27	Measurement I	Quiz 2, Lab 2-collect data
Lesson 3 Aug30-Sept 3	Measurement II	Quiz 3, Project 1
Readings & Learning activities	<ul style="list-style-type: none"> ○ Complete Lessons 1, 2, and 3 on AsUlearn ○ Naked Statistics: Introduction, Ch. 1 and Ch. 3 ○ “Conceptualization, Operationalization & Measurement” (pdf on AsUlearn) ○ Introduction – in Online Statistics by D. Lane ○ Levels of Measurement - in Online Statistics ○ Watch Unit 1 “Inside Statistics: Against All Odds” Unit 1: What is Statistics ○ Practice on Levels of Measurement ○ Practice on Measurement Reliability/Validity 	
Assignments (see AsUlearn for due dates)	<ul style="list-style-type: none"> • Quizzes for lessons 1, 2, and 3 • Lab 1: Install Excel • Lab 2: Google Forms Survey • PROJECT #1 • Feedback Forum for Module 1 – your post should include (a) what you have learnt in lessons 1,2 and 3, (b) any questions you have about Lessons 1, 2 and 3, and (c) at least one substantive reply to another student’s initial post. See Tips for Online Forums below. 	
Module 1: Learning objectives	<p><i>By the end of this module, students should be able to:</i></p> <ul style="list-style-type: none"> - Define concepts conceptually and operationally - Describe unit of analysis, variables, and variable values - Identify the level of measurement for variables - Identify and discuss measurement validity and reliability - Understand quantitative data organization in excel 	

MODULE 2- Weeks 4, 5, 6

Lesson/ Date	TOPIC	Assignments
Lesson 4- Sept 6-10	Research Design I: Experiments	Quiz 4
Lesson 5- Sept 13-17	Research Design II: Surveys	Quiz 5
Lesson 6- Sept 20-24	Descriptive statistics	Quiz 6, Project 2
Readings & learning activities	Naked Statistics Ch 2, 7, 13, Complete Lessons 4, 5, 6 Practice on Research Design AsUlearn text on "Questionnaire Construction" Research Design in Online Statistics by D. Lane Summarizing Distributions in Online Statistics by D. Lane Watch " Inside Statistics: Against All Odds " Units 14, 15, 4 and 6	
Assignments (see due dates on AsUlearn)	<ul style="list-style-type: none"> Quizzes 4, 5, 6 Feedback Forum for Module 2: Lessons 4, 5, and 6 – your post should include (a) what you have learnt, (b) any questions you have and (c) at least one substantive reply to another student's initial post. Labs on the CJ3115-102 Lab course page PROJECT #2 	
Module 2: Learning objectives	By the end of this module, students should be able to: <ul style="list-style-type: none"> - Identify types of research design and their strengths/weaknesses - Formulate research hypothesis - Describe variables using measures of average and spread - Compute measures of average and variation in excel - Organize and display data using tables and charts in excel 	

MODULE 3 - Weeks 7, 8, 9

Lesson/Date	TOPIC
EXAM 1- Sept 27	Exam 1 (20%) on AsUlearn; timed but open for 24 hours
Lesson 7- Oct 4-8	Sampling; Probability
Lesson 8- Oct 13-15	Correlation
Readings & learning activities	<ul style="list-style-type: none"> Naked Statistics Chapters 4, 5, and 6 AsUlearn text on Sampling

	<ul style="list-style-type: none"> ▪ Lessons 7 and 8 ▪ Probability (parts A-E) in Online Statistics by D. Lane ▪ Describing Bivariate Data in Online Statistics ▪ Watch "Inside Statistics: Against All Odds" Units 16, 17, 19, 10 and 12
Assignments (due dates are on AsULearn)	<ul style="list-style-type: none"> • Exam 1 • Quizzes for lessons 7 and 8 • Feedback Forum for Module 3: Lessons 7 and 8. • Labs on the CJ3115-102 Lab course page
Module 3: Learning objectives	<p>By the end of this module, students should be able to:</p> <ul style="list-style-type: none"> - Define probability and non-probability sampling designs - Identify and define samples and populations - Interpret probabilities and apply probability rules - Understand independent and dependent probability events - Describe, use and interpret correlation between two variables - Compute correlation in excel

MODULE 4 -Weeks 10, 11, 12

Lesson/Date	TOPIC: INFERENTIAL STATISTICS
Lesson 9 Oct 18-22	Normal distribution, z-scores
Lesson 10 Oct 25-29	Hypotheses about one sample mean; T-distribution
Lesson 11 Nov 1-5	Hypotheses about two sample means
Readings & learning activities	<ul style="list-style-type: none"> ▪ Naked Statistics Ch. 8, 9, 10 ▪ Lessons 9, 10, 11 ▪ Normal Distribution in Online Statistics ▪ Sampling Distributions (parts 1-6) in Online Statistics ▪ Logic of Hypothesis Testing in Online Statistics ▪ Watch "Inside Statistics: Against All Odds" Units 7,8, 22, 25,26 and 27
Assignments (due dates are on AsULearn)	<ul style="list-style-type: none"> • Quizzes for lessons 9, 10, and 11 • Labs on the CJ3115-102 Lab course page • Feedback Forum for Module 4: Lessons 9, 10 and 11 • PROJECT #3
Module 4: Learning objectives	<p>By the end of this module, students should be able to:</p> <ul style="list-style-type: none"> - Compute and interpret a z-score (apply the Normal Distribution properties)

	<ul style="list-style-type: none"> - Formulate null and research hypotheses about one sample mean; and difference between two means - Understand the concept of a p-value - Calculate a p-value and interpret it
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MODULE 5 - Weeks 13, 14, 15

MODULE 5	DATA ANALYSIS
Lesson 12 Nov 8-12	Categorical data analysis: Crosstabs
Lesson 13 Nov 15-19	Chi-square test
Review Nov 22-30	Review
EXAM 2 -Dec. 2-3	EXAM 2 (20%) on AsUlearn; timed but open for 24 hours
Readings & learning activities	<ul style="list-style-type: none"> ▪ NS Ch. 10, NS Conclusion ▪ Lessons 12 and 13 ▪ AsUlearn text on Two-way tables ▪ Chi-Square in Online Statistics by D. Lane ▪ Watch "Inside Statistics: Against All Odds" Units 13 and 29 ▪ Study Guide for Exam 2
Assignments (due dates are on AsUlearn)	<ul style="list-style-type: none"> • Quiz for Lessons 12 and 13 • PROJECT #5 • Forum for Module 5: Lessons 12 and 13 • Course Evaluations for end of term.
Module 5: Learning objectives	By the end of this module, students should be able to: <ul style="list-style-type: none"> - Formulate a hypothesis about the relationship between 2 categorical variables - Create a cross-tab and interpret it - Understand and interpret chi square test of independence

Graded Course Assignments

Your final grade will be the weighted mean of all grades received on the following components.

Component	Percent
Exam 1	15%
Exam 2	20%
Labs	20%
Projects (3 total)	15%

Quizzes	15%
Weekly Lessons in VT	10%
<u>Participation in forums</u>	5%
Total	100%

Exams (35%)

Two exams will ask you to demonstrate your knowledge with concepts and techniques covered in class. Exam 1 is 15% and Exam 2 (cumulative) is 20% of your grade.

- Exams will be completed via AsULearn.
- They will be timed; you will have 24 hours to access and complete the exam on the date specified in the course schedule.
- All students will need to agree to an Academic Code of Conduct statement at the start of the exam.

Labs (20%)

The AsUlearn course page for your lab assignments is **CJ 3115-201 LAB**. Log in to review the schedule of labs and due dates. Your lab instructor, Dr. Ehrhardt, assigns all graded material and the two Teaching Assistants (Connor Hughes and Jake Wallis) are responsible for grading the lab assignments and assisting you with you lab-related questions. All labs are due at the end of the week. If you have an issue, contact your lab Graduate Student Instructor or Dr. Ehrhardt.

- During the **first week**, lab will not "meet." Your assignment is to install Excel on your computer and make sure it starts up okay. There is a link explaining how to do it for free on the ASUlearn Lab course page (CJ 3115-201 LAB).
- During the **second week**, students' assignment is to use Google forms to create a survey, collect observations, and submit them. You will use the resulting data to practice on during lab.
- **Taking screenshots in Windows, Excel and from Websites**
Some assignments will require you to take a screenshot of your computer screen. To do this in Windows, follow these instructions:
 1. Go to the screen that you want to take a screenshot of.
 2. Press the "Screenshot" button on the upper-right of the keyboard.
 3. Go to Microsoft Word and select "paste" from the edit menu. A picture of your screen should appear in the Word document. You can resize as you would any other image.
 4. You should label each screenshot.

Projects (15%)

Students will complete 3 projects working individually or in groups. All projects are due a by the specified date posted on AsUlearn. Students need to start working on a project at the beginning of a module. For example, one of the projects will ask you to create a concept map of the research process. Another may ask that you select a popular news article reporting results from a social science research. Based on this article you will answer a set of questions related to key components of research design. Projects are designed to apply course concepts and can serve as practice for the midterm and final exams.

Quizzes (15%)

Except for quiz 1, all other quizzes will be completed during our class meetings on Tuesday. These will be collaborative quizzes and you will work in a group of 3 or 4 to complete them during class. Quizzes will be posted on AsUlearn, along with the due dates/times. Some of these quizzes will take the form of multiple choice questions; others will test your knowledge of concepts and tools from the readings using short answer questions. Upon completing the quiz, we will debrief and review the questions and topics that were most challenging. There will be one quiz per lesson. You are responsible for completing the weekly lesson (see below) and readings for that week prior to coming to class and taking the quiz.

Weekly Lessons in VoiceThread (VT) (10%)

Students are responsible for completing a weekly lesson assignment along with the assigned readings for that week. All lessons and readings must be completed prior to coming to class. When we meet on Tuesday (via zoom), I will briefly review the lesson and ask that you complete a quiz based on the material for that week (i.e. the lesson and readings). There will be 13 lessons total during the semester – 2 to 3 lessons per module. See Course Schedule above.

Students will access and watch the Weekly Lesson via VoiceThread (VT). Watch the [VoiceThread Assignments Tutorial for Students](#), if you have not used VT before. Additional VT tutorials are available under the CLASS RESOURCES block on AsUlearn. Clicking on the lesson in AsUlearn will direct you to the VT page, where you can watch the lesson, comment, or create a VT assignment. Upon completion of the lesson, you will be asked to press the “Submit” button. This is important in order to receive the assignment points for that lesson. Each lesson is graded and worth 10 points. The total points earned for all lessons in the semester is 130 points. They are worth 10% of the total course grade.

Participation in Class Forums (5%)

You are expected and required to participate in the online discussion forums on AsUlearn, called “FEEDBACK FORUM”. This is a way to ensure that you seek help and that you may learn by helping others too. One of the most effective ways to learn something is by having to teach or explain it. There is one forum per module, a total of 5 forums. The purpose is to recreate some of the classroom benefits in the online experience and build a community. Typically, when one student asks a question, others have the same question on their mind. Sharing questions and answers is a way to help each other. Participation is graded weekly based on effort (Satisfactory/Unsatisfactory - S/U). Your post must include 3 parts: 1) what you have learnt from the weekly lessons; 2) any questions you have about those lessons, and 3) At least one reply to another student’s initial post. Feel free to post an audio or video file in place of a written post, by using [FlipGrid](#), [Vocaroo](#) or [Online Voice Recorder](#).

Tip for quality participation in the class forums: I strongly encourage you to use the [“3C+Q” method](#) for online discussions. The 3C+Q includes:

- ✓ Compliment – I like that ...
- ✓ Comment – I agree with that, I disagree because ...
- ✓ Connection – I also thought ...

✓ Question – I wonder why ...

Class Policies

Professional Email Communication

Writing a professional email is an important skill one should master before graduation. All emails to the instructor should include the following: (1) a subject line briefly explaining the topic of the email and that it pertains to PS/CJ 3115; (2) a greeting more professional than "Yo" or "Hey" (if you are unsure how to address me, use Dr. Ruseva or Professor Ruseva); (3) a clear question or request; and (4) your name. Emails lacking any of these criteria will not be returned. Most emails will be returned within 24 hours on weekdays and 48 hours on weekends, although circumstances may arise that delay response time.

Emergencies

Circumstances of a private nature may arise that you need to discuss exclusively with the instructors (such as, "I'm at the hospital and won't be able to finish the assignments in time."). Other emergencies may arise. For such situations, EMAIL both the instructor and TA in a joint email (rusevatb@appstate.edu, winkletw@appstate.edu).

Flexibility <Things Could Change>

Due to the uncertainty of the current health environment, guidelines and modes of instruction might change during the semester. Please understand that any changes during the ongoing term are made with your safety and health in mind, as well as the safety of faculty and staff. ***Especially this semester, it is important to actively read and observe any communication sent from AppState or me,*** so you can make adjustments as needed and not miss class time. Please also inform your instructor(s) and department if anything changes on your end and any accommodations that might be necessary. Note, that I am open to being flexible should life events arise that make it hard for you to keep up with the class. Such events might include things happening to you personally or to family members. Please know that I want to do everything I can to support you. If you are having life issues that are making it hard for you to keep up with class, PLEASE let me know ASAP so I can help.

Grading, Late Assignments & Missed Exams

Each student is expected to read the assigned material prior to completing the quizzes and assignments. I would strongly recommend reading the material again prior to the next exam. You are expected to take each exam and to complete each lab assignment by the specified time. If for some reason you cannot meet these deadlines, you must let me know *in advance* (minimum 48 hours). Otherwise a zero will be recorded for that assignment. Make-up exams are given only under the above mentioned conditions.

For each day an assignment is late, ***1 letter grade will be deducted*** from your grade for that assignment. For instance, if you scored 95 (A) on a lab assignment, you'd receive 90 (A-) if your assignment was one day overdue; B+ if it was two days overdue, and so on. If there are extenuating circumstances prohibiting you from completing your work on time, please notify me before the due date. There will be no incomplete grades.

Expectations of students: *I expect you to:*

- keep up with the material covered every week
- complete your labs and quizzes on time every week
- produce a review of an article as a course project
- participate actively and courteously in the forums
- abide by the standards of academic honesty and student code of conduct
- seek help (instructor, TA, or class forums) when you don't understand a topic

Expectations of the instructor: *You can expect me to:*

- provide comprehensive learning material on time every week
- provide scheduled live online office hours
- provide an ongoing help forum, check it at least three times a week and respond to student postings
- create quizzes and exams that reflect the stated learning expectations for the course
- show you how important social science research is by using real examples

Netiquette for Discussion Forums

All students are responsible for managing their own threads (initial posting and responses). In a face-to-face conversation, it would be rude to walk away and not respond to questions posed. It is poor netiquette to do the same in any online discussion format. You are expected to manage your own thread and respond to the instructor's or classmates' replies.

In this course, our primary means of communication is written. Written language offers certain advantages: more opportunity for reasoned thought, more ability to go in-depth, and more time to think through an issue before posting a comment. However, written communication also has disadvantages, such a lack of the face-to-face signaling that occurs through body language, intonation, pausing, facial expressions, and gestures. As a result, please be aware of the possibility of miscommunication and compose your comments in a positive, supportive, and constructive manner. *The important caveat to remember is that reciprocal dialogue needs to be professional, clear, and succinct while supporting the learning and understanding for all involved.*

Zoom Etiquette

Respectful behavior and clear, concise discussions are still a part of video conference discussions, therefore many of the guidelines above apply. However, video conferencing requires another level of intentionality, so that other attendees can see and hear you. Here are a few tips:

ZOOM Etiquette

- Find a quiet location from which to join your session to avoid distractions.
- Wear headphones or earbuds, if outside.
- Make sure your first and last names are entered for your zoom account id and upload an image for your profile pic.
- Mute your audio unless you are speaking (or in line to speak) to prevent unintentional background noise from disrupting the conversation.
- For your video, make sure you have lighting in front of you, and avoid bright light behind you.
- Avoid zooming from your bed or at least sit up with your computer on a lap desk or stand.
- Turn off your video temporarily when you are moving or walking around.

- Make sure your webcam is set to your eye level. We don't want to focus on your forehead.
- Remove any clutter behind you, so that your colleagues are not distracted.
- Be aware that there will be longer pauses between a question and an answer. Be patient.
- Use the "hand-raise" function on Zoom if you want to ask a question.

University Policies

Academic Integrity/ Student Code of Conduct

Be sure that you are familiar with and follow the University's academic integrity code. As a community of learners at Appalachian State University, we must create an atmosphere of honesty, fairness, and responsibility, without which we cannot earn the trust and respect of each other. This course will follow the *Academic Integrity Code*, found on the ASU Academic Affairs site:

<http://academicaffairs.appstate.edu/syllabi>

Accommodations for Disabilities

Appalachian State University is committed to providing an inclusive experience, accessible learning environments and equal opportunity to individuals with disabilities in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Individuals needing reasonable accommodations should contact the Office of Disability Resources (828.262.3056 or odr.appstate.edu).

Emergency Absences

When a student is out of town and unable to return to campus due to hospitalization, death in the family, or other extenuating circumstances, the student or the student's parents may contact the Office of Student Development to request that professors be notified as to the reason for the absence. This notification is conveyed to the appropriate departmental office as a matter of information only and does not serve as an official excuse for class absence. Only individual faculty members make this determination, and documentation may be requested by the faculty members. The Office of Student Development does not provide this service when notification is received after the absence has occurred. Also, if a student is in town, that student is responsible for notifying the individual faculty members that she/he will be missing class. [Printable PDF of the Attendance Policy](#).

Non-Discrimination Policy

This course is committed to supporting our students and fostering an environment that is free of bias, discrimination, and harassment, in the classroom and in the broader university community. We are a faculty that strives to model reflection, advocacy, and care for community in order to work toward an equitable, democratic, and sustainable society. We value your participation in this process. If you feel that our courses, the programs, or department fall short of this commitment, we encourage you to engage in dialogue with your instructor and/or other program faculty. Please visit <https://titleix.appstate.edu> for information related to Appalachian State University's Title IX and <http://academicaffairs.appstate.edu/syllabi> for the most up-to-date policies on students with special needs, academic integrity, religious observances, and student engagement with courses.

Food Insecurity and Homelessness Statement

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students, 324 Plemmons Student Union, for a list of resources and

support. The ASU Food Pantry&Free Store is a free resource with pantry and personal care items, located in the Office of Sustainability on the bottom floor of East Hall. Furthermore, please notify the professor if you are comfortable in doing so. This will enable him/her to assist you with finding the resources you may need.

Additional Resources for Class Projects

Library Resources:

App State Library: <https://library.appstate.edu/>

[App State Library Political Science Databases](#)

[Literature Reviews: A guide for graduate students](#)

Data and Statistics on the Web:

- Strategies and resources for finding data across the social sciences:
<http://guides.lib.umich.edu/findingdata>
- Web Resources FedStats has searching and linking capabilities to more than 100 agencies that provide data and trend information.
<https://fedstats.sites.usa.gov/>
- This site provides public resources from the U.S. Census Bureau including population, economic, industry, and geography studies.
<http://www.census.gov/>
- American FactFinder is your source for population, housing, economic and geographic data.
https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml
- Statistical Resources on the Web is maintained by the *University of Michigan* and provides links to data covering topics from agriculture to weather.
<http://library.nmu.edu/govdocs/docsstats.htm>
http://www.nass.usda.gov/Statistics_by_State/Michigan/Publications/Annual_Statistical_Bulletin/sta ts11/agstat11.pdf
<https://www.lib.umich.edu/browse/Statistics%20and%20Data%20Sets>
- American Community Survey: <http://guides.lib.umich.edu/communityprofile>
- Current Population Survey: <https://www.census.gov/programs-surveys/cps/data-detail.html>