

# ARTSCI 101 From Data to Insight: The Use of Statistics and Writing in Public Health Research

Washington Duke Embark Course

Summer 2016 Session 2

**Class meetings:** Section 01: M-F, 9:30 - 10:45 am in Perkins Link 088 Classroom 4  
Section 02: M-F, 11:00 - 12:15 pm in Perkins Link 088 Classroom 4

**Professors:** Dr. Mine Çetinkaya-Rundel - <http://www.stat.duke.edu/~mc301/>  
Email: [mine@stat.duke.edu](mailto:mine@stat.duke.edu)  
Office: 213 Old Chemistry (West Campus)  
Office Hours: Tuesdays and Thursdays 5 - 6pm

Dr. Adrienne Aiken Morgan - <https://adrienneaikenmorgan.com/>  
Email: [adrienne.a.morgan@duke.edu](mailto:adrienne.a.morgan@duke.edu)  
Office: Art Building 200-I (East Campus)  
Office Hours: By appointment at <https://adrienneaikenmorgan.youcanbook.me/>  
in Perkins 112

**Course website:** [bit.ly/artsci101](http://bit.ly/artsci101)

**TAs:** Stephanie Brown - PhD Student, Statistical Science  
Email: [stephanielisa.brown@duke.edu](mailto:stephanielisa.brown@duke.edu) / Office: Old Chem 211A  
Office Hours: Monday 4 - 5:30pm and Thursdays 4:30 - 6pm

Katherine (Katie) Payne - Embedded Writing Consultant, Writing Studio  
Email: [katie.payne@duke.edu](mailto:katie.payne@duke.edu) / Office: Perkins 112  
Office Hours:

- **Week 3:** Wednesday: 4:30 - 6 pm & Thursday: 4:30 - 6 pm
- **Week 4:** Tuesday: 3:30 - 5 pm & Wednesday: 3:30 - 5 pm
- **Week 5:** Tuesday: 3:30 - 5 pm & Wednesday: 3:30 - 5 pm
- **Week 6:** Tuesday: 2 - 3:30 pm & Wednesday: 2 - 3:30 pm

**No class dates:** Friday, July 22, Monday, August 1, Tuesday, August 2  
*\* Note that on these days there may be events scheduled through the WDS program.*

# Syllabus contents

[Course Overview](#)

[Learning Goals and Objectives](#)

[Writing Goals](#)

[Statistical Goals](#)

[Expectations](#)

[Assignments](#)

[Writing Assignments](#)

[Statistics Assignments](#)

[Final Project and Poster](#)

[Grading](#)

[Course Policies](#)

[Attendance and Participation](#)

[Communication](#)

[Office Hours](#)

[Formatting and Document Design](#)

[Submission of Assignments](#)

[Technology](#)

[Academic Integrity](#)

[Course Resources & Additional Support](#)

[Working Schedule](#)

## Course Overview

The field of public health seeks to promote the healthiest lives possible of people and communities. In this class, we will discuss, analyze, and write about complex issues in public health, including smoking, breast cancer screening, physical activity, vaccination, and health disparities through the lens of statistical and scientific reasoning. We will use the scientific literature as a basis for discussion of these issues and to illustrate academic writing and statistical concepts. Furthermore, through course writing and statistics assignments, we will consider multiple hypotheses about the causes and prevention of health problems and show that the path between data and inference is not as clear-cut as it often appears to be in the popular media by critically examining the scientific research literature. As students, you and your peers will lead class discussions and collaborate with peers on the major projects of the course, which will integrate statistical analysis and academic writing.

## Learning Goals and Objectives

Rather than teaching you how to live healthier a life yourself, the objective of this course is to focus on critical reading of scientific articles as a model for how academic writing and statistical reasoning are integrated. In addition, we will both treat academic writing as an area of inquiry and as mode of understanding how statistics may be used as a tool to influence health policy development. Finally, we will use writing to examine cases of improper use of statistics leading to poor policies, as well as how appropriate interpretation of statistics has contributed to the development of policies to improve health and well-being.

Together in this course, we will learn how to understand and work with public health data in the face of uncertainty. Specifically, we will learn best practices for collecting data, analyzing data, and constructing valid inferences and decisions about real world phenomena. We will also learn how to appropriately critique data-based claims and evaluating data-based decisions within the scientific, public health, and popular literature.

## Writing Goals

This course will provide an introduction to key goals and practices of academic writing. The course will emphasize writing as a social process and a commitment to helping students generate effective academic arguments.

While this course will not replace Writing 101 in your studies at Duke, we will use the shared goals and practices in our work together, which are as follows:

Goals:	Practices:
Engage with the work of others	Researching
Articulate a position	Workshopping
Situate writing for specific audiences	Revising
Transfer writing knowledge to situations beyond ARTSCI 101	Editing

## Statistical Goals

- Understand how the public opinion and public policy have changed over the years with regard to public health topics.
- Develop a critical understanding of statistical concepts that can be applied to better understand controversies around these and other issues.
- Use data summaries and visualizations to explore public health data.

## Expectations

This will be a challenging, yet rewarding course! We will treat academic writing as a process. While the outcome of our work together will be important, the process will be just as important. Our hope is that you will find the process of creating a written work from start to finish one that is gratifying, especially if writing does not come as natural or automatic for you.

During the early weeks of the summer session, we will build the theoretical foundation needed to complete the writing projects that we will carefully craft throughout the course. As such, the course readings will serve as the “backbone” of our work together. They will provide the material we need to speak the same language and to drive our creative process. Some course readings will be relatively light and enjoyable, while others will be denser and require a higher level of critical thinking and analysis. Bear with the process and glean as much as you can on your own, and we will bring together our collective knowledge during our class discussions. During the last half of the course, our reading load will be lighter, as you dig into your individual literature review and research proposals. We also will increase the number of class writing workshops as we refine your work during these final weeks of the semester. These writing workshops will focus on higher order concerns of academic writing (e.g., purpose, argument, use of evidence, structure and organization) rather than grammar and composition.

# Assignments

## Writing Assignments

There will be 2 major types of writing assignments for this course:

1. weekly brief papers in response to class readings and/or films (3-5 pages each); and
2. a final project in which students will propose a research study (10-15 pages). This final project will include several parts:
  - a. development of a research question and hypothesis;
  - b. review of the relevant research literature;
  - c. an annotated bibliography (8-10 references); and
  - d. discussion of research methodology and your study's contributions to the field.

Class instruction time will be allotted each week for student workshoping of assignments.

Each writing assignment will progress in scope and is designed to help us build our practice and skills in preparation for the final project. Students will learn to reflect upon and improve their writing by completing multiple drafts of their work, receiving constructive feedback from instructors and peers, and giving constructive feedback to peers. Students will also complete in class self-reflective writing designed to help them think critically about their own writing.

## Statistics Assignments

This course will focus on a range of data analysis and statistical methods that are regularly used to answer significant research questions within the public health literature. Beyond learning to explore and visualize data, we will learn that the first step of any analysis is identifying the assumptions and conditions necessary to apply the statistical technique(s) required to answer the research question at hand. Finally, we will learn to interpret conclusions based on quantitative evidence in context of the data and the research questions as well as identifying limitations due to data collection and study design.

- Weekly quantitative and data-based assignments, completed individually with discussion encouraged among students
- Short, in-class quizzes completed individually, then in teams
- In class activities, completed in teams

## Final Project and Poster

Your final project will combine skills you used in writing and statistics assignments. Details on format and expectations for the final project will be provided later on in the course.

## Grading

Attendance & participation	10%
Peer evaluation	5%
Statistics assignments	15%
Writing assignments	15%
In-class assessments	15%
Final project & poster	40%

Letter grades map approximately onto the following scale, which we will use in calculating your final grade for the course:

A+ (97–100), A (93–96), A- (90–92)  
B+ (87–89), B (83–86), B- (80–82)  
C+ (77–79), C (73–76), C- (70–72)  
D+ (67–69), D (63–66), D- (60–62)  
F (0–59)

## Course Policies

### Attendance and Participation

This course is structured as a workshop seminar; therefore, your attendance and participation are crucial to both you and your classmates. In fact, the success of this course depends on our willingness to engage actively with each other. Please be sure to bring course readings/texts, as well as any assignments, with you to class each day. Arriving more than 15 minutes late or unprepared to participate (i.e. half-asleep, without requested materials, etc.) qualifies as an absence. Repeated tardy arrivals are disruptive; three tardies will be counted as an absence.

Even with the best of intentions, you may come down sick or find yourself in a no-win scheduling conflict. Students who miss graded work due to a scheduled varsity trip, religious holiday or short-term illness should fill out an online [NOVAP](#), [religious observance notification](#), or [short-term illness notification](#) form respectively. If you cannot complete an assignment on the due date due to a short-term illness, you have until noon the following day's class to complete it at no penalty. Then the regular late work policy will kick in.

If you are faced with a personal or family emergency or a long-range or chronic health condition that interferes with your ability to attend or complete classes, you should contact your academic dean's office. See more information on policies surrounding these conditions [here](#). Your academic dean can also provide more information.

It will be your responsibility to catch up with the material you missed due to an absence, including getting notes and class materials from a classmate. You will be granted a maximum of three absences (or absence equivalents, as described above) for the course - STINF absences count as part of this maximum. Each further absence will result in the lowering of your final course grade by one increment (e.g. an A becomes A-, A- becomes B+, etc.). Upon your third absence, we will contact your Dean.

## Communication

We will regularly send announcements by email, please make sure to check your email daily. These emails will also be saved as announcements on Sakai.

Any non-personal questions related to the material covered in class, assignments, project, etc. should be posted on Piazza. Before posting a new question please make sure to check if your question has already been answered. The TAs and the professors will be answering questions on the forum daily and all students are expected to answer questions as well. Please use informative titles for your posts.

Any personal questions should be directed to the course professors by email. We will respond to your email within 24 hours, except in the event of extenuating circumstances. If there are certain topics that would be better to discuss in person (e.g., grades), we will request that you make time for us to meet outside of class. Please address us as "Dr." or "Professor" and refrain from using text abbreviations, slang, and other types of informal written communication. Please visit this link that has tips written by fellow Duke students for writing academic emails: [http://twp.duke.edu/uploads/media\\_items/academic-email-tips.original.pdf](http://twp.duke.edu/uploads/media_items/academic-email-tips.original.pdf).

Note that it is more efficient to answer most content related questions "in person" so make use of office hours with the professors and the TAs.

## Office Hours

Please feel free to meet with the professors and the teaching assistants during office hours, which are listed on the first page of the syllabus. Any changes to the office hours schedule will be announced via email.

## Formatting and Document Design

It is your responsibility as a scholar to present your work in a clear, transparent, and careful manner. I will ask you to resubmit any piece of writing that seems hurried or carelessly prepared, and it will thereafter be subject to late penalties. Aspects of professional-quality academic documents include:

- 12 pt. Times New Roman font (or equivalent)
- Double line spacing
- One-inch margins all around
- Edited, proofread, and titled
- Adherence to the guidelines set forth by the American Psychological Association (APA) Publication Manual, 6th Edition (See <https://owl.english.purdue.edu/owl/resource/560/01/>)

## Submission of Assignments

All written assignments will be submitted electronically via Sakai, however sometimes we might ask that you also bring a hard copy to class. Please refer to the individual assignment prompt for specific instructions. Extensions on the due dates of assignments will not be given (except for documented illness or documented emergency); late assignments will be accepted with a deduction of 30% of the points for submission within 24 hours after the due date. Assignments turned in later than 24 after the due date will receive a score of 0. Assignments will be time stamped on Sakai, and those marked as LATE (submitted after the deadline) will be penalized according to this policy. It is your responsibility to submit your assignments in a timely manner, well before the deadline. This is the best way to avoid potential technical issues that might come up at the last minute. If you are having technical difficulties, ask for help early.

## Technology

Unless appropriate for our class discussions or activities or note taking, we ask that you not access electronic devices at all during class to refrain from distracting you and possibly your classmates and me. Students repeatedly engaging in such distractions will be asked to leave and will be considered absent.

## Academic Integrity

Academic writing is seldom self-contained with respect to its ideas and proof. Quoting and citing sources strengthens your writing by explicitly situating your argument within an ongoing



conversation and body of evidence. There are several systems for documenting sources. In this course, we will learn and employ APA style citation. We will discuss quotation, paraphrase, and citation in class.

Recall the Duke Community Standard:

1. I will not lie, cheat, or steal in my academic endeavors, nor will I accept the actions of those who do;
2. I will conduct myself responsibly and honorably in all my activities as a Duke student.

Duke University is a community dedicated to scholarship, leadership, and service and to the principles of honesty, fairness, respect, and accountability. Citizens of this community commit to reflect upon and uphold these principles in all academic and non-academic endeavors, and to protect and promote a culture of integrity. Cheating on exams and quizzes, plagiarism on homework assignments and project, lying about an illness or absence and other forms of academic dishonesty are a breach of trust with classmates and faculty, violate the Duke Community Standard, and will not be tolerated. Such incidences will result in a 0 grade for all parties involved as well as being reported to the Office of Student Conduct. Additionally, there may be penalties to your final class grade, result in failure of the course and/or suspension from Duke University. Please review the Duke's Academic Dishonesty policies and please ask the professors if you have any questions about what constitutes plagiarism. You may also consult: <http://library.duke.edu/research/plagiarism>.

## Course Resources & Additional Support

In addition to the course professors and teaching assistants, you can use the following resources and support mechanisms provided by the university.

1. The Writing Studio: The Writing Studio is also great resource for you—here in Writing 101 and beyond. We encourage you to visit the Writing Studio where you will find a place beyond our classroom to work collaboratively with an attentive, non-evaluative reader. You can visit at any stage in your writing process, including brainstorming ideas or organizing your draft. Visit <http://twp.duke.edu/twp-writing-studio> to schedule a face-to-face or online appointment and to learn more about Studio resources.
2. Course Librarian: We will have a course librarian who will partner with us to familiarize you with Duke's library system and to assist you with formulating and pursuing your major projects. This librarian will meet with us at least once this semester for a workshop at Lilly Library (please see our working schedule for date) and will also be available for individual consultations. Name and contact information of the librarian will be announced later in class.
3. The Academic Resource Center: The ARC provides academic support and programming for all Duke undergraduates. Their services include one-on-one consultations and peer

tutoring, and they work alongside the Student Disability Access Office to serve students with diagnosed learning disabilities. Their programs include opportunities for students to study together in structured groups ("learning communities"), as well as workshops offered throughout the semester. Further information and resources are available on their website at <http://duke.edu/arc/index.php>.

4. Students with Disabilities: Students who may need special accommodations in this class are encouraged to contact the Student Disability Access Office (<http://www.access.duke.edu/students/index.php>) as soon as possible to ensure that such accommodations can be implemented in a timely fashion.
5. Counseling and Psychological Services (CAPS): Each of you will face some level of challenge during your time at Duke – whether an ‘everyday’ challenge like procrastination, or a more profound challenge that impairs your ability to function. The CAPS staff includes psychologists, clinical social workers, and psychiatrists experienced in working with college-age adults. Information about their services and workshops is available here: <http://studentaffairs.duke.edu/caps/about-us>.

## Working Schedule

Please see the course website at [bit.ly/artsci101](http://bit.ly/artsci101) for our working schedule. This page lists topics to be covered, all assignments, and due dates. Note that this is not a static page, and while we will not move important deadlines, some details might change as the course progresses. Always check back on the webpage for most recent updates.