



INQ 300 B, Fall 2016: Contemporary Issues: What are the Chances?

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Class Meetings	Mondays, Wednesdays, and Fridays: 12:00 Noon - 1:00 PM in Lucas 125	
Office Hours	Mondays and Wednesdays: 10:30 AM - 11:30 AM, Tuesdays and Thursdays: 9:30 AM - 10:30 AM, and by appointment (email or call me)	
Course Description	We live in a world where numerical information floods our news reports, our newspapers, and the Internet. Access to this information is becoming easier and quicker for most of us; with a quick visit to the Google or CNN website, virtually any search or article presents information quantitatively in many forms, ranging from graphs, to data tables and summaries, and even to statistical results. Is this ease of access to numerical information and statistics tainting our truth? Does the misuse of quantitative reasoning provide any answer desired to almost any question? We will explore these questions and learn how to properly argue using numerical information. You will explore a popular contemporary, and oftentimes controversial, issue and decide how one should properly argue for or against that issue. How should one argue for or against global warming? How about supporting for arts in the schools? Let's give it a try!	
Motivation	Quoting a journal article from 1995, one can read "every year since 1950, the number of American children gunned down has doubled." This is quite possibly one of the worst (most inaccurate) statistics ever quoted! Why is that? Consider if in 1950, only 1 child was gunned down. In 1951 it would be 2, then 4 children in 1952, and the process continues. In 1960, the amount would be $2^{10} = 1,024$ children. In 1970 it would be $2^{20} = 1,048,576$. In 1983, if the quote is correct, one would determine that $2^{33} = 8,589,934,592$ children were gunned down! This is a number larger than the entire population of the world, adults, children, and all! Learning to properly argue and learning to search for the validity of quantitative information is an issue that is becoming more and more important as we have access to more and more information.	
Intended Learning Outcomes	Through common INQ 300 intended learning outcomes, by the end of this course, successful students will be able to: <ul style="list-style-type: none">• apply their research findings to a formal project addressing the course topic question and will successfully present this proposal in an oral defense,• write well-organized and clearly reasoned papers both individually and with a group. Papers will have clear theses, effective organization, and a minimum of sentence-level errors,• contribute to meaningful, effective discussion and collaborative work that includes expressing, listening to, and debating ideas,• apply critical thinking and quantitative reasoning skills in a meaningful way,• make explicit, meaningful connections between past course work (both in the core and in their majors) and contemporary issues, and• demonstrate understanding of a contemporary issue or problem, an awareness of the types of inquiry needed to understand it, and the resources required for addressing it. In addition, this section of INQ 300 has the following additional intended learning outcomes, so that by the end of this course, successful students will be able to: <ul style="list-style-type: none">• analyze statistics and quantitative information for validity and unbiasedness and formulate an argument for or against an issue using statistics and quantitative information properly, and	

- synthesize their training in the methodologies of the natural sciences, social sciences, and humanities with quantitative information to create their argument.

Required Materials

Book 1: *Damned Lies and Statistics: Untangling Numbers from the Media, Politicians, and Activists*, by Joel Best, University of California Press, *Updated Edition*
 Book 2: *Strengths Finder 2.0*, by Tom Rath, Gallup Press, *not a used copy*
 Reference Book: *A Writer's Reference* by Diana Hacker, RC Edition
 Other: see Other Readings for other class materials (provided)

Course Grades

The following table lists the weights for the various forms of assessment for this class.

Individual Paper #1	15%
Group Case Study Presentation	20%
Individual Paper #2	10%
Final Project	55%
Annotated Bibliography	10%
Drafts	5%
Oral Defense	15%
Written Paper	15%
Group Member Evaluations	10%

A grade scale will be determined after final grades are computed, but will be no worse than the scale given below.

		B+	88-89	C+	78-79	D+	68-69		
A	93-100	B	83-87	C	73-77	D	63-67	F	0-59
A-	90-92	B-	80-82	C-	70-72	D-	60-62		

Weeks 1-3

During the first three weeks of class, we will focus on looking at the background necessary to critically evaluate sources that use statistics and quantitative information. The bulk of this part of the course will be in-class discussions (either the whole class, or in small group discussions) that result from reading *Damned Lies and Statistics*. This book focuses on several issues that are important to us; why are statistics needed? Where do bad statistics come from, and how can that be avoided? How are numbers mangled, and what happens when inappropriate comparisons are made? While we read through this book, we will also be looking at several case studies of quantitative information in the media. Are regulations on fuel efficiency working? Are arguments posed in letters to the editor valid and reasonable? You will reflect on these case studies by completing a written assignment and response, and discussing your thoughts and conclusions in small groups.

For one of these case studies, you will construct a written paper with your argument, using the case study as the reference base while also doing some research to find other articles that address the same topic. This paper will be approximately 4 pages in length and will serve as practice for the final paper and defense.

For another of the case studies, you and your small group will prepare a presentation (approximately 15 minutes) to the class regarding your thoughts and conclusion about the case study. Again, this presentation is meant to be practice for working in groups and rehearsing your oral presentation skills.

Weeks 4-5

We will begin preparation for choosing projects and groups for the final project and defense during these weeks. Before ultimately choosing, however, you will prepare a short (approximately 3 minutes) presentation to the class about yourself regarding your strengths, weaknesses, roles you enjoy in group work, and thoughts on the types of questions and projects that might interest you. To guide your presentation and to give you a chance to explore yourselves, we will use the *Strengths Finder 2.0* to learn about "people traits" and what they mean. A short paper about yourself and your traits will be assigned

during this time. Based on all of this, students will choose groups and select topics. Your groups will be sized at approximately 4 classmates, and should be of mixed majors and strengths.

We will also develop a grading criteria for the final defense itself.

Week 6 During week 6, we will formally select groups and topics for the final project and defense. We will also spend time talking about the final report itself and the final defense (strategies, format, and such). You should find time later in this week to meet with the reference librarian, Piper Cumbo, to obtain help with finding sources and quantitative information regarding their chosen topic.

Weeks 7-13 Generally speaking, we will not meet much as a class during these weeks; most meetings will be individual group meetings with me in my office. Please pay attention to the course schedule at the end of this syllabus as there are meeting days for our class. Most notably, we will meet the first day after break just to more or less touch base with each other and talk about the upcoming deadlines.

During this time, groups should be meeting often and working heavily on their final paper and defense! To keep groups on task, during week 9 an annotated bibliography is due to me when we meet in group conferences, along with the first evaluation of group members. For week 10, in your group conference with me your first “draft” is due that consists of an outline, major ideas and arguments, and quantitative information regarding your project is due. During week 11, we will meet as a class once for each group to give an oral report on the group’s progress on the topic. In addition, at this time the second evaluation of group members is due.

As the semester comes to an end, for week 12 your second “draft” of the final paper is due to me; this should essentially be your final version with as much polish as possible, so that we can discuss issues during the final group conference with me during week 13. In addition, during week 13 a draft of the presentation portion of your final project is due to me so that I can provide feedback.

Finals Week There is no final exam in this class; instead, we will meet for final defenses at the regularly scheduled final exam time for this class. Your group will have 20 minutes to present their argument, with up to 10 minutes allotted for questions. The final version of your final paper is due at this time, as is the final evaluation of group members. Note that the final paper length is roughly 30 pages and should include the appropriate background material, supporting evidence, both of why your argument is properly presented and supported and also why existing arguments are inappropriate presented, and your final argument of how your topic and argument should be presented.

Attendance & Make-Up Work Attendance is both required and expected in this course. **You will not be allowed to make up any work missed due to an absence.** If you must miss class for any reason, you should talk to me well in advance, and you should arrange to have any work due submitted before your absence. Note that for a large part of this course, you will be meeting as groups outside of class. You are expected to attend all of these meetings, and failure to attend these meetings or share in the group effort for the final defense and paper will negatively affect your grade.

Note that for the last half of the semester, for many of our regular class meetings, we will not be meeting together as a class. This, however, does **not** mean you can schedule work hours, trips, or other things during this time! In fact, this should remain open as a guaranteed time your group can meet.

Academic Integrity Students are expected to adhere to the Academic Integrity policies of Roanoke College. All work submitted for a grade is to be your own work! No electronic devices should be taken out during any class (this includes cellular phones; please turn them **off** before class) unless otherwise mentioned.

Course Schedule The following schedule is approximate and subject to change. Any necessary changes will be discussed in class.

Weeks 1-3: Background Material		
Wed	Aug 31	Introduction to INQ 300 and Our Overarching Contemporary Issue
Fri	Sept 2	Discussion and Review of the INQ Curriculum
Mon	Sept 5	Introduction and C1: Importance of Social Statistics
Wed	Sept 7	C2: Sources of Bad Statistics Case Study #1
Fri	Sept 9	C3: Methods for Mangling Numbers Discuss Case Study #1 in Groups
Mon	Sept 12	C4: Inappropriate Comparisons Case Study #2
Wed	Sept 14	C5: Conflicts over Social Statistics Discuss Case Study #2 in Groups
Fri	Sept 16	C6: The Critical Approach Written Individual Paper on Case Study #1 Due
Weeks 4-5: Presentations, Strengths Finder, Final Project Stuff		
Mon	Sept 19	About Oral Presentations, Wrap-Up Class Time for Groups to work on Case Study #2 Response
Wed	Sept 21	Group Presentations on Case Study #2
Fri	Sept 23	Group Presentations on Case Study #2, Continued Introduction to Strengths Finder
Mon	Sept 26	Group and Class Discussion on Strengths Finder
Wed	Sept 28	More About Oral Presentations, About the Project Defense and Paper Creation of Defense Grading Rubric
Fri	Sept 30	Individual Presentation on Strengths and Interests Individual Paper on Strengths Due
Week 6: Group and Topic Selection, Tips and Tricks		
Mon	Oct 3	Topic Discussion, Topic and Group Selection
Wed	Oct 5	Tips and Tricks: Final Report
Fri	Oct 7	Tips and Tricks: Final Defense
Week 7: No Class		
Fri	Oct 14	Group Project Proposal Due
Spring Break		
Mon	Oct 24	Lab Day: Meet in Trexler 363 , Refresher Meeting Quantitative Reasoning Assessment Test
Wed	Nov 2	Group Conferences with Instructor Annotated Bibliography, Group Member Evaluation #1 Due
Mon	Nov 14	Group Conferences with Instructor First Draft Due
Fri	Nov 18	Class Meeting: Group Update Reports Group Member Evaluation #2 Due
Tue	Nov 22	Second Draft Due
Wed	Nov 30	Final Group Conferences with Instructor
Fri	Dec 7	Draft of Defense Presentation Due
Fri	Dec 16	Final Defenses: 2:00 PM - 5:00 PM Final Group Member Evaluation Due Final Written Project Due