

Teaching Philosophy

The organization of this document starts by discussing my background as a student and leads into my philosophy of teaching independent of course. I then discuss some things that have improved my pedagogy here at Colgate University based on student feedback and guidance from colleagues. Finally, I discuss specifics about student evaluations of teaching (SETs) for each course and provide both student outcomes and SETs.

My Education

This summer, in a seminar for Project NeXt (a professional development program for new or recent Ph.D.s in the mathematical sciences), a facilitator told us to write down three things about the classroom we learned the most in. It struck me that, in all my years of education, no one asked me to do that. While I was able to write down three items – organized, long and challenging problem sets, and a lot of available resources – it sparked a much longer reflection on my experience in education, what worked and didn't work for me, and how those experiences impact my decisions in front of a classroom.

Starting in elementary school, I was simultaneously a “good” student and a “bad” student; I received good grades despite poor growth. I was what Rodriguez (1978) calls a “scholarship boy,” an imitative and incurious student. I attended excellent primary and secondary schools as the home my grandparents lived in was located in such an area and my father was eager for my sister and me to have the best education we could. Wherever we actually lived at the time, we always found the way to our grandparents to get on the bus to a blue ribbon school. The position I find myself in today is the result of a perfect storm of caring educators, the loud pride my father took in my education, and my ever-increasing desire to be separated from the life of my family and childhood which were a struggle for a variety of reasons. It was fleeing from the humiliation, the pursuit of normality or something next to it. Whatever I lacked in experience or intellect, I made up with temperament and persistence.

In primary and secondary school, achievement and recognition fueled my pursuit of education, sometimes learning extra topics for additional praise. I memorized my multiplication tables and asked for worksheets on division before we got there as a class. I “learned” the definition of a derivative by repeating the definition verbatim even if I didn't fully understand its implications. I had achieved some semblance of knowledge but it wasn't accompanied by curiosity, originality, or independence. I was so rewarded for imitation that I didn't learn in a sustainable way. I had a collection of “facts” and “ideas” with little sense of discovery or curiosity about what's missing. I had a

practiced skill in memory, but I was a novice in critically thinking and developing my own solutions.

My story of determination and status as a “good” student earned me entrance to Quinnipiac University, a liberal arts university in Hamden, CT. I visited the financial aid office every day for two weeks before I was able to acquire enough financial aid through grants and scholarships to afford it, even working over forty hours per week to make payments. In hindsight, I can say all of it was worth it – education has really altered the trajectory of my life and what a peculiar success it has been for me so far.

My first year of courses changed my entire perspective about education, and particularly my own. In the introductory English courses, we had a small number of assignments that we could continually rewrite until we achieved our goals. I remember working endlessly to correct issues in my previous drafts only to create new ones to fix in later editions. I found myself frustrated but learning that there is no such thing as a perfect paper, just better versions. It took me at least five versions of each assignment to *earn* a grade that matched my goals, but the benefit far exceeded any measurement of my success; my growth as a reader, writer, and communicator was tenfold. In the entry courses for mathematics, we had a professor who assigned daunting and challenging problem sets that would take prolonged efforts to complete. The exams were just as challenging and demanded as much practice as the homework required and often additional revision. We had the opportunity to improve upon our exam grades by performing better on the same topics on the next exam. I often had to take advantage of this offer. This showed me that mistakes are great learning opportunities – they highlight gaps in understanding and illuminate the path of pragmatic problem-solving.

These experiences led me to an epiphany about what learning was to me. It’s discovery, with a mindset of persistent curiosity and improvement based in iteration. My best professors in college and graduate school helped lead me to the conclusion that learning was different from the education I had experienced previously – there is no perfect answer, only better ones. These experiences have always informed the reflection on my instruction and implementation of evidence-based practices, treating education as a mindset – what students take away after memorization has faded.

Teaching Statement

Below, I list the courses that I have taught at Colgate University, including one course (MATH 354) I developed and taught for the first time in Fall 2018. Additionally, I have developed two courses (MA 454, and CORE 185S) and look forward to running them in the near future. In the following, I discuss my cross-course pedagogies and then I delineate my course-specific experiences.

Spring	2019	<i>MATH 416: Mathematical Statistics</i>	1 section
Spring	2019	<i>CORE 185S: Balderdash, Codswallop and Malarky</i>	1 section
Fall	2018	<i>MATH 354: Data Analysis I</i>	1 section
Fall	2018	<i>MATH 316: Probability</i>	1 section
Spring	2018	<i>MATH 105: Introductory Statistics</i>	1 section
Fall	2017	<i>MATH 316: Probability</i>	1 section
Fall	2017	<i>MATH 105: Introductory Statistics</i>	1 section
Spring	2017	<i>MATH 105: Introductory Statistics</i>	1 section
Spring	2017	<i>MATH 317: Mathematical Statistics</i>	1 section
Fall	2016	<i>MATH 316: Probability</i>	2 sections

In these courses, I aim to facilitate the deep-learning I experienced as a student by leading students to develop firm foundations and creative approaches for engaging with mathematical theory. I hope to enlighten students to the importance of the basics and how mastery influences the extent to which everything after that can be learned. I introduce the idea of productive failure (Burger and Starbird, 2012) as a necessary and fruitful experience in learning that leads students to see failure, not as a frustrating experience, but a necessary part of their education, which leads them to acquire a deeper understanding of the basics and more valuable future successes.

In line with my goals for students, I firmly believe that one of the important aspects of teaching is one's ability to critically self-reflect and grow. In weekly diagnostic assignments, I gauge how comfortable students are with the material covered during class that week. This provides a way for students to assess and communicate their understanding and command of the material while also allowing me the opportunity to answer any remaining questions and reflect on how my teaching practice may have led to any themes in those questions. Exploration of my own productive failure, in this way, helps in critically evaluating how my teaching practice impacts learning and what adjustments may need to be made. By giving careful consideration to student responses on these assignments, I am able to better inform my classroom choices in an effort to be highly effective in maximizing the learning and achievement of *all* students.

As a facilitator of this type of learning, I have three overarching goals in all of the courses that I teach.

1. Encourage deep understanding of difficult coursework through creative approaches to learning including productive failure, by sparking curiosity and unyielding persistence in mathematical exploration.
2. Facilitate the development of skills in the crafting and communication of solutions that demonstrate a theoretical and practical understanding through classroom design.
3. Engage in course development and instructional support that leads *all* students to discover their individual skills to become self-sufficient and independent learners.

1. Encourage Deep Understanding

Teaching statistics at a liberal arts college provides some of the best opportunities for discussions about quantitative literacy as the intersections between statistics and other disciplines grow. Just as a liberal arts education promotes a broad program that prepares students for a lifetime of learning, statistics advances this agenda by ingraining habits of learning in a highly generalizable way and critically evaluating information.

While mathematics and statistics may not be among every student's favorite courses, there is usually a way to think about these subjects so that they relate to their interests. Instead of using only basic mathematical examples, students are more engaged in data-driven material because they feel that it is portrayed in a manner relevant to their lives and interests. Even the students who openly dislike mathematics have relayed positive feedback, saying the real examples made the material easier to understand and more engaging. The real need for statistics arising in experiments across sociology, psychology, biology, and medicine provide rich areas for student engagement. Instead of simply showing a mathematical result holds, students also experience the consequences of the result. Following the life cycle of a mathematical result from derivation to application allows for a deeper and more meaningful understanding of a mathematical or statistical concept. Now, students are inclined to think of the examples holistically, recalling the value of a statistical concept or application. My hope is that this is largely done in place of the memorization of definitions, steps, and formulas.

The higher-level concepts and applications we approach are more easily confronted with the statistical computing and graphics capabilities of R. Statisticians have promoted the use of graphics to make statistical analyses and theory more palatable for over two hundred years; for example, below is an excerpt from *The Statistical Breviary* (Playfair, 1801).

“For no study is less alluring or more dry and tedious than statistics, unless the mind and imagination are set to work or that the person studying is particularly interested in the subject; which is seldom the case with young men in any rank in life.”

While education, technology, and statistics have changed drastically in the last two hundred years (including more inclusive gender pronouns) I believe this sentiment is still highly relevant in the classroom.

Using R, I've honed my practice of teaching toward discovery through visualization. Graphical approaches motivate students by helping them gain insight and confidence in approaching theoretical concepts before getting started as the graphs often provide a road map for proving the result. Graphical approaches also allow for multiple explanations or approaches, which is more representative of statistics where there are many acceptable answers to the same question. This opens our discussions to varied ways and levels of understanding and how they build on each other. While I employ several methods of instruction, I find that initiating a solution using graphical

tools and having students work out the theory through these conversations leads to the deepest understanding, particularly for advanced concepts.

In Fall 2018, I extended this idea to their graded homework assignments. Students in my upper-level courses were required to type up their homework submissions in \LaTeX , a mathematical typesetting language, which leads them to experience what quality mathematical work looks like. Submitted electronically, I've started to grade their assignments using digital inking and annotation. The benefit in this approach, beyond being green, is that it allows me to create a new resource. In addition to a typed solution set, I can collect anonymous screenshots of student solutions that provide students with an opportunity to see other vantage points. When I complete grading, I post an "inventory of successes and productive failures." This document contains correct, alternative solutions to those posted as well as faulty solutions accompanied by a description of where they went wrong and notes on how to recognize, diagnose, and ameliorate the issue. This leads students to extract new insights from their peers' successes and failures, pointing the way to deeper understanding and quality solutions while simultaneously showing that failure isn't a frustrating waste of time, but a necessary step toward deep understanding, and something we all do. Several students noted this in their weekly diagnostic assignments, saying both that they enjoyed the alternate solutions when reviewing and that seeing other students make mistakes made them more comfortable with their own.

2. Facilitate Development

With a deeper mastery of the basics, I aim to push students beyond their mathematical experience by teaching in a way that pushes them deep into their "zone of proximal development" (Vygotsky, 1978) – the area between their ability in independent problem solving and their potential development in collaboration with equally capable, or more capable peers (including me). I hope to guide students beyond determining their mathematical ability – what they can do – to discovering what developmental guidance they require to approach statistical questions independently and collaboratively. A big part of this goal is leading students to realize that their persistent curiosity is just as important as their current ability.

Bjork (1994) coined this type of course as having "desirable difficulty," where the learning tasks require a "desirable" amount of effort, which improves long-term performance. Students who harness their ability to think independently and approach questions just beyond their reach fully realize their capabilities, inside and outside of the classroom, by becoming better academics and intellectuals. I plan my courses to be "desirably" challenging; students *should* feel like they need to ask questions, revisit the notes or additional resources to succeed. However, students that engage with the ideas of the course should find it startlingly doable, even for students who may be nervous about math or *think* they are not good at mathematics. Students that need more time to master the material or remaster their foundations are granted such time through retesting. This creates a course designed for

students to have the opportunity to perform poorly, and take it as an invitation to try again – read more, practice completing additional exercises (even ones that aren't assigned) or ask for help.

For a long time, I grappled with how feedback provides information to students and what behaviors we illicit through the design of our courses. At a conference I attended in graduate school, I was exposed to standards-based grading which gave me an approach that better suited my intentions as a teacher. While many things affect performance and learning, I want my classroom design to reflect my belief that a student's resolve to do well and investment in the course are paramount to their success. I want to reward and encourage dedicated study by believing that all students are capable of conquering difficult topics and never underestimating them. To this point, I design my courses for students of vastly diverse experiences to do well by motivating them through an individualized, iterative approach to learning with retesting.

Retesting is a tool for learning how to learn and conquering a challenging course that rewards long-term performance and discourages temporary memorization. The standards-based grading protocol, which involves measuring students' proficiency on well-defined course objectives (Tomlinson and McTighe, 2006), in addition to traditional grades for homework and projects, provides an individualized information channel through which students get specific feedback on their coursework. Previous research (Hattie and Timperley, 2007; Hattie, 2009) suggest that a better understanding of essential principles like this is needed for grades to accurately reflect students' achievement. Providing feedback about how well a student has mastered each of the course's important concepts allows for more nuanced conversations with students about where they are strong and where they can make plans to improve their knowledge by using retesting as a diagnostic tool.

By developing a focused idea about what grades mean and basing the assessment of students' understanding and achievement on standards and iteration, as opposed to points and one-off assessments, I hope to help students *experience* the importance of quality and attain a higher degree of self-sufficiency. This is aided by giving clearer and more meaningful feedback about their academic achievement through clear rubrics that provide specific guidance toward quality solutions (Tomlinson and McTighe, 2006; O'Connor, 2007). The attention to comprehension allows for students to be rewarded for their thinking or understanding in cases where they can't get to the end of a solution, widening the usual approach to grading, while imposing a real difference between "good" and "exemplary" which motivates students beyond acceptable solutions by rewarding extraordinary quality. The system simultaneously benefits students who have a comparatively poor mathematics experience while pushing those who have a relatively rich mathematics experience to the edge of their zone of proximal learning. These benefits have slowly become clearer as I've taken feedback to make changes to the grading system and the communication of their progress.

While I expected pushback based on my perception of the classroom sentiment, I was very surprised to see how

often students used the word “condescending” in their evaluations during the first couple of semesters. I try very hard to be constructive and nurturing with my criticism and I mimic this behavior by taking constructive criticism very seriously by making iterative improvements myself, sometimes during the semester. I was troubled to read that this didn’t come across to some students, and I found myself frustrated when students didn’t see the thoughtfulness of my work or trust me implicitly. I never thought that my responses, which were intended to explain my choices, would come across as dismissive, particularly as I often took their constructive criticism to make substantive changes in the classroom. The need for a more comprehensive and nuanced conversation about why I engage in and employ this type of pedagogy, as well as alterations for clarity and apparent fairness was clear. This was a good learning opportunity for me. There were times I felt like I wasn’t speaking the same language as some of the students; we were operating on entirely different sets of assumptions. The most important thing I’ve learned in my first five semesters at Colgate is that any time I ask anything of others (particularly change), it requires unwavering dedication to effective communication.

I have made several changes to both the implementation and execution of my grading system by making explanations clearer in the syllabus and during class at the beginning of the semester. I summarize the evidence-based educational research that suggests transforming grades leads to better learning outcomes and how it provides a measure of what we collectively think “learning” is. Students better understand that the ability to retest is an opportunity and incentive for them to revisit material which is particularly important in such a cumulative discipline and better measures their long-lasting learning. This type of protocol often leads students to feel ready for the final exam without the massive re-learning experience that traditional grading rewards. This full-picture explanation in the first week makes the alteration of the grading ritual more palatable to students as they are better able to understand its purpose and benefits.

I have also spent time working to make standards-based grading similar to a grading system students are familiar with. Though I’ve always sent each student an email after every exam, some students expressed they had difficulty interpreting their grades. Many standards-based systems use scales like Mastery/Progressing/Needs Improvement (M/P/NI) or numerical categories (0-4) that are not points but categories. These approaches did not work well for students who wanted to earn high marks and evaluate themselves on whether or not they “made an A.” After these iterations of my grading protocol, I think I’ve landed on a favorable scale. Now, after each examination, students receive a “report card” via email containing the topics of the course and a letter grade for their performance on that topic.

- **A:** Mastery, the solution contains no non-trivial errors and clearly communicates understanding.
- **B:** Sufficient, the solution meets expectations and contains an easily correctable mistake like notational errors or a simple error in understanding or communication of the concept.
- **C:** Progressing, the solution contains correct work and a serious error in understanding or communication of

the concept. Revision is needed.

- **D:** Developing, the solution does not contain the correct answer or doesn't fully answer the question and does show some reasoning in the correct direction. Revision is needed.
- **F:** Needs attention, the solution does not contain work in the correct direction and a reasonable attempt was made. Revision is needed.
- **Z:** No Response, there is no reasonable attempt to provide the correct solution. Not assessable.

For retesting, students earn a letter grade for their first and second attempts. Initially, I had placed all the weight on the most recent attempt as motivated by iterative learning and that the most recent attempt should be (and usually is) the best-graded attempt. This setup was uncomfortable for many students who felt the possibility of lower performance on the second attempt outweighed the benefit in having one. Now, I employ a decaying weighted average of first and second attempts which weighs the second attempt more heavily than the first, keeping the incentive for iterative learning in place, while also counting the first attempt. I also calculate the students unweighted average and offer to take the higher of the two, as guided by colleagues and SETs, though less than 1% of students benefit from this calculation.

I'm happy to have a better understanding of student expectations. I have worked hard toward making this classroom design more transparent, clear, and effective in leading students to feel like all of their work is rewarded – not just the mastered topics. I have been able to work through barriers of resistance, continue innovating, and advancing my students' learning experiences by altering the frequency and calculation of their standards grades in a way that matches the goals of my initial adaptation while ameliorating the factors causing the strongest resistance. I have been able to accommodate the difference between Colgate students and students I've taught in the past by engaging with this resistance instead of obstinately explaining it away. This has taken some guidance from my colleagues and much practice in engaging students more constructively, through their lens – not just mine.

As I adapt my teaching practice to the students here at Colgate, there has been a remarkable shift in student reaction, as many students have realized and harnessed the power this classroom design affords them. While students get several attempts at mastery, it is through hard work and iterative learning. Through this repetition, students in my courses have been completing graduate-level work in statistics and probability; they develop into effective problem solvers and communicators as they realize learning happens through them, not to them.

3. Course Development and Instructional Support

Teaching an optimistically rigorous curriculum to a class of students with diverse mathematics experience requires careful planning. As a teacher, I have felt that the textbooks I've used provide helpful insight and guidance but didn't necessarily match my instruction. Textbooks written for undergraduates required many additional

resources as I strive to lead students toward thinking about advanced topics and applications through technology. Textbooks written for graduate students required some level of translation to the undergraduate level as “clearly” often takes the place of necessary pages of reasoning.

In the MATH 105, 316, 354, 416, and 454 courses that I’ve designed, I’ve always started with an optimistic choice of text. This choice requires an outstanding amount of time and thought for creating the resources that help guide each student to the edge of their zone of proximal learning. These resources include additional instructional information, examples, and practice exercises. In the second or third instance of teaching a course, these instructional tools replace the textbook. In these courses, students are fully exposed to a technology-immersed, optimistic curriculum designed to closely mirror first-year graduate courses in content and application.

Exploring this territory has yielded many learning experiences for me in what works and what doesn’t. Opposed to my experience as a graduate student, with the added freedom of being a faculty member, I’ve found that what doesn’t work can be altered, with careful engagement and investigation into what went wrong, to work. With this mindset, I have approached each semester as a new preparation allowing the course to evolve with the feedback of students and my own hindsight evaluation. The investment is high and there are growing pains associated with this approach, but when the objectives are completed in a way that works for everyone the results are extraordinary. When the students gain command of the material through the available resources and instruction we can share the intellectual victory; when additional guidance is required, growth is had through conversations about effective thinking – where we need to go and where we got lost. As I make decisions and work toward goals of improvement, I find the material is exciting in a new way each semester and that prompts curiosity in students – it’s an approach that stimulates intellectual growth for us all simultaneously.

This type of thoughtful and intentional instructional design does make the course more challenging, which sometimes has a negative effect on the classroom environment. There’s a delicate balance to be made between showing excitement about the material to prompt curiosity and ensuring that there’s a feeling of command on the students’ part through judicious employment of evidence-based practices. When students don’t feel they have command of the material, my attempts at sparking curiosity or excitement can compound the discomfort they feel. This led me to recognize the importance of keeping my finger on the pulse of the class and their evaluation of the classroom environment more than just a couple of times a semester. Initially, I had posted questionnaires as optional weekly assignments students could complete if they had questions they didn’t feel comfortable voicing in class. I found that this resource was only used by students who put the biggest investment in the course and this created a large blind spot for me in that the information I was using to inform my instructional practice was from a biased sample. In the next iteration, I offered the weekly assignments as an “extra credit” opportunity, but this barely increased the response rate leading to a similar issue.

The evolution of this assignment ended in a required weekly assignment where I ask students to reflect on what we've discussed that week by seeing what they thought was important and if there were any unanswered questions. Each diagnostic also has some questions aimed to help guide homework completion by leading students to manage the time given to complete the assignment. Each week, I summarize the responses of students by listing the topics they thought were most important as well as their remaining questions with answers. These adjustments created an assignment that not only audits what they learned but how they learned. The rich resources resulting from student responses make clear the intention and purpose of the assignment, which is one of my most valuable instructional tools. Students often point out that the usefulness of these resources goes beyond the obvious guidance on the concepts and applications of the course or current homework assignment. The variety of insights that the students provide in their summary of each week's material lead students to experience a variety of views about the topics, and to realize questions they didn't know they had. The responses to these assignments are also invaluable to me because they allow me to push students to the edge of their zone of proximal learning and to know when I have led them to a place that feels impossible.

As I've geared my goals to more closely match those of Colgate students, I've seen vast improvements in the class atmosphere. Through thoughtful reflections on the practice of my pedagogy and communication channels with students, I truly feel that my courses have transformed. With small tweaks and adjustments, I have been able to retain universal comments about challenge, growth and learning through engaging real-world problems and lead *all* students to feel that I put in a lot of effort (like them) to be accessible and effective, while truly being and coming across as empathetic, and compassionate. While I continue to realize and leverage the power of effective communication, I'm excited to continue my quest into the "adjacent possibles" (Goatley and Johnston, 2013) of tomorrow and engage with the opportunities of iterative growth that await me; this starts each semester in viewing student descriptions of the class they learned most in, which I ask for in the first week of classes.

MATH 105: Introductory Statistics

Introductory Statistics is one of the largest classes at Colgate. As an introductory course that is often taken to fulfill a graduation requirement, Introductory Statistics attracts students from all majors. Numeracy is an important objective as a student's scientific literacy depends on this, particularly as mathematics and statistics become the grammar of science (Pearson, 1900). However, numeracy has become a moving target; the pace of scientific advancement leads us to ask – what is science today?

I was able to share ideas about technology and teaching techniques that I use in the classroom at the 2017 Joint Mathematical Meetings in San Diego where I was invited to participate in a "teaching with technology" panel discussion organized by Project NExT. I appreciated the national recognition by the early-career teaching community and the opportunity to share a few example analyses from my introductory statistics class to

demonstrate how technology allows me, and the students, to ask and answer questions about the world. When I abandoned the textbook for my own resources, I was able to provide notes where R plays an integrated role and guided homework assignments serve as an introduction to R. This transition proved to be an extremely helpful way to update the course to meet the *Guidelines for Assessment and Instruction in Statistics Education (GAISE) College Report* (Carver et al., 2016) released by the American Statistical Association (ASA) and the Mathematical Association of America (MAA).

We explore beyond the recommended topics through published research across disciplines in an inquiry guided manner. By taking part in the investigative process, students begin to think critically about the information they consume and recognize when numbers are mathematically accurate but so misleading as to be untrue. This makes students more responsible consumers of statistics by ensuring there is a representative sample, appropriate analysis and a clear and concise interpretation of such analysis, mentioning any limitations or assumptions. This holistic and accessible approach to understanding the communication of numbers leads students toward responsible knowledge creation, which they practice by completing one of several writing assignments from evaluating a protein as a biomarker for cirrhosis as in Bracht et al. (2016) to mining and summarizing tweets, their content and sentiment using elementary natural language processing. This “a-ha” moment has shown up in many SET forms and is obvious when grading the writing assignments, which very often exceed expectations.

Many of the negative comments in previous iterations of MATH 105 revolved around my grading and communication, as discussed in my teaching statement. At the outset, I failed to effectively communicate my pedagogies and how it aligns with my goals and care for students. This led to student resistance and discomfort with the use of technology and grading protocol, despite almost ubiquitous comments about growth and learning through engaging real-world problems. The introduction of weekly diagnostic assignments has significantly aided the classroom environment as the students and I take that information as guidance toward improvement. The additional care I've put into producing resources and answer keys, putting more weight on quality than swiftness, has led to fewer typographical errors and confusion for students and puts me in better alignment with what I expect in students. The increased direct focus on technology and graphing, during examples and homework, has lead students from a 60% success rate on continuous probability (as the area under a curve) on the final to over a 95% success rate.

The changes implemented to make the communication and use of technology more intentional has led to significantly improved understanding of concepts often left for upper-level research methods courses while retaining the feeling of an introductory course. I'm excited to teach this course again, incorporating improved iterations of my pedagogy as well as new techniques I've brought into the classroom.

MATH 316: Probability

Probability is a course that is often taken as an elective for mathematics, computer science, physics, and economics majors. This wide array of students presents several instructional difficulties as students from different majors often have varied goals and experiences. Teaching this course over time, I have developed notes that contain a thorough discussion of theoretical concepts and examples motivated by the real-world so that it is approachable to students of diverse backgrounds. Additionally, I implemented the use of R for the course as I have in Introductory Statistics. The use of R provides many students with their first exposure to a statistical programming language while allowing them to visualize what we're doing theoretically with graphical approaches and thorough application. We explore the standard topics of an undergraduate probability course often at the graduate level while answering questions beyond our reach using simulation in R; I largely expanded on this instructional tool in Fall 2018.

With almost all students reporting learning, growth, and increased interest in the material, some students initially felt the material was too difficult, indicating I perhaps overshot in my efforts to make the course more challenging after Fall 2016. Upon reflection and review of bifurcated SET forms, I believe this was a big factor due to the varying calculus experience of students. To ameliorate this issue, I have added a calculus review to every homework assignment. This aided in leveling the playing field for students who are less comfortable with calculus by providing several questions guiding their review and remastering of foundational calculus. This allowed me to keep the level of material the same with goals of improving communication through the addition of required weekly diagnostics, which allowed me to better balance the students' varied goals and experiences. Additional negative comments in my MATH 316 course revolved around my grading and communication, as discussed in my teaching statement and in the section about MATH 105, and have been largely addressed in the same way.

The evidence-based practices I have employed in MATH 105 have proved to be equally effective in my other courses, including MATH 316. This course saw all three iterations of the diagnostics – optional, extra credit, and required. Due to the challenging topics in this course, the evaluation and communication about the understanding and needs of students are paramount to its success. The weekly diagnostics have substantially improved communication between the students and me as we engage in a mathematically sophisticated investigation of probability and its real-world applications. The more efficient communication and the increased use of technology has made concepts and applications often left for graduate-level courses accessible in an undergraduate course. In class, I have employed additional techniques for engagement. I used ABCD cards (Prather and Brissenden, 2008) to receive instant feedback by asking students if we were done deriving a result (A-Yes, B-No), or to grade their own understanding of a theoretical concept or application upon completion. This tool transformed the classroom environment as I was able to receive feedback from all students, instead of just a handful, and naturally lead to verbal participation from a larger variety of students. This also enhanced exercises in which we discuss productive

failure as I can ask students if they can spot an error (A-Yes, B-No) and if they know how to fix it. Additionally, these types of exercises are now discussed more designedly by using a different color of chalk, as suggested by a colleague, which has made those exercises far more intentional and effective.

The increased direct focus on technology and graphing, during examples and homework, has lead students to discover results. On the first day, we discussed the probability that two students in the room had a matched birthday. At the outset, students couldn't calculate this probability and had guesses that ranged from a 0% to 10% chance. After our guesses, students ordered themselves by birthday and there was no match. I asked them to make a new guess, and this time their guesses ranged from a 0% to 5% chance. Showing there was a 57% chance of this event, via simulation in R, motivated the learning of advanced counting techniques by showing that we, as humans, are actually quite bad at assessing probability on the fly. In another unit, I showed students graphical displays of both discrete and continuous probabilities, giving them time to derive probability formulas for compound events – this lead to a far better outcome in understanding the grammar of probability as evidenced by assessments and was noted in many of the weekly diagnostic assignments. Students practiced this type of discovery in a semester-long group project where students in self-selected pairs were combined with another pair to derive the results about an assigned named distribution not covered in class. I feel that this also contributed to the classroom environment as students were able to meet other students in the class while experiencing the application and derivation of results from the course in a new context, helping each other along the way.

MATH 416: Mathematical Statistics

In Spring 2017, I taught Mathematical Statistics – the follow-up course to Probability. Although the title includes statistics, this is not an applied methods course but a proof-based exploration of how those methods are developed. There is often a disconnect between what students think statistics is and what the material of this course is. I believe that the addition of a two-course sequence in data analysis that I proposed (MATH 354, and MATH 454) clarifies the difference and provides students with the applied statistics courses they are looking for.

Many of the negative comments in my MATH 317 (now MATH 416) revolved around the mismatched expectations which clearly needed to be addressed in a more meaningful and effective manner. This issue was intensified by my improvement goals for the semester. While the responses to the Fall 2016 probability courses were generally very positive, I aimed to increase the difficulty of my courses after receiving such feedback during my first review with the chair of the department. I did not do an effective job balancing my efforts between teaching the MATH 105 course with 150 students for the first time and increasing the difficulty in this new course. Teaching both classes that semester as new preparations with many goals and a student load close to two hundred made me frantic at times. In hindsight, I should have taken more care with *how* I was making the MATH 317 course more challenging and spent more time to ensure the increasingly challenging material was adequately polished and

accessible to all students.

I strongly believe that the issues of this first semester of MATH 317 can be remedied with many of the iterative improvements I've made in MATH 316 and MATH 105. While it is not an applied course, I will often lead students into theory through application or a graphical approach – seeing the theory before deriving the result so that the motivation is clear. Expanding the course notes with increased applications, and graphical approaches should lead students to feel they have more command of the material and its application. Employing the weekly diagnostic assignments will help me assess and adapt the balance of these approaches as necessary. I look forward to a very successful course in Spring 2019.

MATH 353: Data Analysis I

Data Analysis I is an applied statistics course that discusses topics in exploratory data analysis that are widely used today. With such a broad application, this course attracts students from across the university. The varied pre-requisites for the course yielded a class of extraordinarily different perspectives, which presented many opportunities for rich discussion and also presented some instructional challenges.

When I took this course in graduate school, I remember lamenting how difficult it was to stay engaged during the lectures. I now realize that it is an incredibly difficult course to teach as there are a variety of ways to approach any dataset and to unpack and use many complicated formulas the same day they're introduced is difficult to keep up with as a student. Going forward, I think that assigning readings through the weekly diagnostic assignments to introduce the upcoming regression models would allow us to shift our focus toward more substantive and informed conversations in class. The added efficiency of this approach should allow for a better understanding of the theory and a more engaging classroom experience through the discussion of theory with an applied lens – the applications often coming from my multidisciplinary collaborations.

The experiences of my five semesters teaching were invaluable as I planned and executed the objectives of this new course. My increased attention to detail led to the diligent development of resources students found to be valuable and polished. The weekly diagnostic assignments and practiced communication led most students to recognize our matched goals, and how their hard work and deep understanding are important. Most students' SET forms include comments about both the benefit of resources provided as well as recognition that the material is widely applicable to their future work across disciplines, in their seminar courses and daily life. Most importantly, my care for the material and my students was almost universally recognized; this is what makes everything else work. As part of my research area, I was and remain excited to this sequence of courses. With a better understanding of the reception of the material and the class schedule, I look forward to the further development of this course as well as its follow up: MATH 454 – Data Analysis II.

CORE 185S: Balderdash, Codswallop & Malarky

In Fall 2018, I completed Core mentoring with Meg Worley (Department of Writing and Rhetoric). Dr. Worley and I had a good rapport before this formal mentoring, as she actually sat in many of my introductory statistics classes in Fall 2017, and I think that this provided a unique opportunity as she likely has more knowledge about my teaching than anyone else on campus. Having space and time to learn in a class far outside of my teaching comfort zone allowed me to really challenge my teaching practice. I was also exposed to different approaches in assigning and grading written work as well as communication techniques integral to the Core experience. I look forward to taking this into my courses where I often tell students “statistics is storytelling.”

This experience and mentorship led to a new Core course Dr. Worley and I will team-teach in Spring 2019. Balderdash, Codswallop & Malarky grew out of a reading group, including faculty from seven different departments, plus the libraries and the chaplain's office, about the evaluation and creation of “factual” information. It became clear that multiple disciplinary perspectives were necessary in order to understand the topic fully as information literacy has taken on new importance in a variety of fields. Many aspects of a Colgate education address this need, but this is the first course to make information assessment the main topic of study, particularly from multiple angles. I'm excited to team-teach this course and I'm certain it will be a great learning experience for Dr. Worley, me, and the students.

Research Statement

The purpose of this statement is to describe my multidisciplinary research activities in the five semesters I have been an Assistant Professor at Colgate University. My research interests can be roughly categorized into four main areas: Bayesian nonparametrics, statistical collaboration, multidisciplinary collaboration, and statistical education. My main research line deals with creating more flexible statistical solutions that extend the Bayesian nonparametric literature, placing high importance on efficient computation. My research is guided by an overarching interest in issues that humanists and social scientists can solve by asking questions statisticians can answer. As of January 2019, I am an author on thirteen papers. Seven are published, four are accepted, one is in revision, and one is submitted. I have received one grant and I am currently collaborating on a second.

The organization of this section starts by discussing my publications in scholarly journals and research grants, as well as the venues where my work has been presented and how it is independent of my doctoral thesis. I note my service to the discipline as a conference organizer and journal referee and I conclude by projecting where my research program will take me during the next three years.

Peer-reviewed Publications in Scholarly Journals of Statistics

I now summarize the contributions my publications have made to the statistics literature. I have co-authored five papers that contribute to the statistics and probability literature. Three of these papers are published, and two are accepted. I begin with two papers published with my dissertation advisor, Timothy Hanson – one in *Computational Statistics and Data Analysis* (2016) and one in *Statistics and Computing* (2016). We also have a paper that was accepted at *Advances in Data Analysis and Classification* that stems from an idea explored in my dissertation but was largely developed during my time at Colgate University.

The *Computational Statistics and Data Analysis* (2016) paper proposes a Bayesian nonparametric approach to multiple testing problems, which often require testing several means with the assumption of rejecting infrequently, as motivated by the need to analyze DNA microarray data. In this setting, we test multiple hypotheses $H_0 : \theta_i = 0$, where θ_i is the mean expression change for genes $i = 1, 2, \dots, j$, with the goal of detecting the genes for which the hypothesis should be rejected. This paper generalizes the current Bayesian approach (Scott and Berger, 2006) to a nonparametric setting by replacing the Gaussian assumption and additionally to the heteroskedastic case, which refers to a setting where the variance can fluctuate across subsets of observations. We developed a framework that employs a discrete approximation to a Polya tree prior that enjoys fast, conjugate updating, centered at the usual Gaussian distribution that can incorporate the information of heteroskedastic errors for improved simultaneous inference. This results in a computationally efficient technique that keeps the false discovery rate low in a variety of multiple testing scenarios, including cases where the Gaussian assumption doesn't hold. We demonstrate these extensions by exploring real data to discover genes that have mean expression changes significantly larger in magnitude than other genes in cancerous (versus noncancerous) tissue.

The *Statistics and Computing* (2016) paper proposes computationally efficient methodologies for density estimation, modeling regression error, and fitting random intercept generalized linear mixed models (GLMMs) via two novel nonparametric priors based on Gaussian-centered Polya trees. The first prior is a discrete approximation that simply replaces the sets at each level of the tree with point mass, and the second prior smooths this discrete approximation for use with continuous data. The resulting density model has similarities to the penalized B spline approximation of Komárek and Lesaffre (2006) on a fixed set of knots, but with random degree. The resulting Markov Chain Monte Carlo (MCMC) scheme, a technique for estimating by simulation from probability distributions, enjoys conjugate updating for almost all parameters and excellent mixing. The resulting methodology performs similarly to the Dirichlet Process Mixture, which usually outperforms Polya tree models, by ameliorating the spikiness usually associated with Polya tree density estimates while retaining valuable interpretation of the model's key values. The versatility of these methodologies makes them relevant to a number of applications as shown in a meta-analysis exploring alcohol as a risk factor in breast cancer as well as a survival analysis about

how attributes of patients (e.g., marital status, race, location, and age) affect their survival time post-diagnosis. The paper accepted at *Advances in Data Analysis and Classification* extends Quadratic Discriminant Analysis (QDA) (Cox, 1958) and Linear Discriminant Analysis (LDA) (Fisher, 1936; Rao, 1948) to the Bayesian nonparametric setting, providing a competitor to MclustDA (Fraley and Raftery, 2002). This approach moves classification beyond the assumption that the data can be modeled by a Gaussian or mixture of Gaussians, by employing a multivariate mixture of finite Polya trees and a p -dimensional location-scale mixture that is a direct generalization of the multivariate Gaussian. The proposed method is quite fast compared with other supervised classifiers and very simple to implement as there are no kernel tricks or initialization steps, which may make it one of the most user-friendly approaches to supervised learning. The flexibility and performance of this methodology are demonstrated for a variety of machine learning benchmarks, including the diagnosis of diabetes among women of Pima Indian heritage living near Phoenix, Arizona (Smith et al., 1988).

I have collaborated on two papers with my colleague Roy Bower (Department of Mathematics, Xavier University) that present new testing procedures for the independence of bivariate Poisson data, which provides researchers a way of examining the relationship between two counts (e.g., the number of doctors visits and number of diagnosed conditions). Our first paper was published in *Communications in Statistics: Case Studies, Data Analysis and Applications* (2018), and our second paper has been accepted for publication in the same journal. On both projects, I designed and coded the simulation studies that displayed the effectiveness of these models as compared to existing alternatives in terms of power and significance and I assisted with the derivations.

Peer-reviewed Publications in Scholarly Journals in Other Disciplines

I have co-authored eight papers for refereed journals in other disciplines. Four of these papers are published, two are accepted, one is in revision, and one is submitted. Such multidisciplinary collaboration is helpful both to me and to the collaborator(s) from other disciplines, as we employ complicated quantitative analyses that extend qualitative hypotheses which I often play a role in crafting. Through these collaborations, I expand my experience, improving my background for teaching while aiding others with my specialized knowledge and expertise. I also find motivation for new questions in statistics; e.g., my focus on biological health science applications has led to flexible approaches that aid model fitting and improve prognosis and diagnostic abilities. I now summarize my contributions to collaborative multidisciplinary research.

I have published one peer-reviewed paper in collaboration with my colleague John Fowler (Department of Orthopaedic Surgery, University of Pittsburgh) in the *Journal of Bone and Joint Surgery* (2015). I completed Bayesian latent class analysis to determine the true diagnostic accuracy of ultrasound, nerve conduction velocity test, and Carpal Tunnel Syndrome 6 symptom scale for the diagnosis of carpal tunnel syndrome without a gold standard. This allowed for the assessment and confirmation of Dr. Fowler's hypothesis that nerve conduction

velocity tests, which are uncomfortable for patients, are no longer necessary as ultrasound measurement provides similar results.

I have published one peer-reviewed paper in collaboration with my colleague Derek Michael Da Silva (Department of Sociology, King's University College at Western University) at the *Sociology of Sport Journal* (2017). We employed a classification scheme to demonstrate that "Scouts," so-called expert analysts of high school athletes, promote a system of scrutiny that is arbitrary and unrelated to objective measurements. "Scouts" thus promote a system of scrutiny that contributes to the systemization of socially dominant relations between the observers and the observed. A second paper, accepted for publication at the same journal, explores public responses to the 2018 Humboldt Broncos bus crash that killed thirteen members of the Saskatchewan-based junior hockey team. We explore how a sporting tragedy generates conversation, mobilizes communities, and constructs expressions of national and regional identity through public displays of grief, sadness, and collective mourning. I worked with Dr. Da Silva to extend his qualitative hypotheses through natural language processing, latent Dirichlet allocation (Blei et al., 2003), and sentiment analysis of over 125,000 Twitter responses that I extracted through Twitter's Premium API using the Python programming language. This quantitative work provided large-scale evidence extending the qualitative work that indicates expressions of community-building and collective bonding, particularly around notions of masculinity and youth, after the tragedy reinforce hegemonic ideals of what it means to be "properly" Canadian.

I have published one peer-reviewed paper with my colleague Erin Cooley (Department of Psychological and Brain Sciences, Colgate University), a second is in revision and a third has been submitted. Our first paper was published in the *Journal of Experimental Psychology: General* (2017) and is currently a first round finalist for the 2019 Prize for Research in Public Interest Communications awarded by the *frank* gathering at the University of Florida. If our paper is selected as a top-three paper, I will present this research in a variety of settings at the 2019 *frank* conference which focuses on the social impacts driven by science, justice, and expression. Using mixed-effect approaches to regression, in three studies, we model how subtle shifts in framing can alter the perception of groups. For example, people may be less willing to help "a camp full of refugees" than "refugees in a camp." The second paper has been submitted to *Social Psychological and Personality Science*. This paper explores the hypothesis that racial biases may be amplified when Black¹ subjects are stopped in groups versus alone. Through classification in complex moderated mediation analyses for over one million stops in New York City, we provide compelling evidence that the perception of groups amplifies racial biases in such stops and that early steps in the escalation of policing may provide a critical opportunity for intervention. The third paper was the result of discussions about the intersection of racial bias (Dr. Cooley's research area) and bias based on socioeconomic status that stemmed from my experience as a poor White student with a parent who suffered from opioid addiction. Through moderated mediation, we show that while social liberals are more sympathetic to

poor people than social conservatives, reading about White privilege decreased their sympathy for a poor White (versus Black) person. A careful experimental design and regression in a moderated mediation analysis lead us to conclude that speaking of racial privilege in isolation, without also considering economic inequality, might further divisions between groups – divisions amplified by political ideologies.

I have published one peer-reviewed paper in collaboration with my colleague Ana Jimenez (Department of Biology, Colgate University) in *PLOS One* (2018). This paper employs exploratory data analysis and feature selection techniques to elucidate the mechanism that may allow for small breeds of dogs to age more slowly compared with large breeds in the context of cellular metabolism and oxidative stress. These analyses indicated that large breed dogs may have higher glycolytic rates, and DNA damage, suggesting a potential mechanism for their decreased lifespan compared with small breed dogs.

I have one paper in collaboration with my colleague Aaron Robertson (Department of Mathematics, Colgate University) that has been accepted for publication at *Experimental Mathematics*. Here, we approximate the distribution of the number of monochromatic complete subgraphs over edgewise 2-colorings of complete graphs and monochromatic arithmetic progressions. While researchers have shown the distributions to be asymptotically Poisson, there is no such result or approximation for a graph with a finite number of vertices, which shows the Poisson approximation to be underdispersed. Through simulation, we provide convincing evidence that these distributions are well approximated by the Delaporte distribution. These implications lead to questioning how the Delaporte approximation might be used to provide better estimates about the boundaries of Ramsey numbers which can lead to further research.

Research Grants

I have submitted and received a new initiatives grant for \$3000 from the Central New York Library Resources Council (CLRC) titled, “The Data Analysis and Collaboration Network,” with Josh Finnell (Head of Research and Instruction, Colgate University). The work associated with this grant addresses the problem of the gap between institution-based expertise as research interest increases at smaller colleges and universities. Leveraging the New York 6 Consortium as a starting point, our intention is to build an inter-institutional statistics collaboratory of “isolated” statisticians and data librarians from community colleges and regional universities to provide resources and collaborative support for researchers unaffiliated with a large research institution. Regionally, we envision using this pilot project to apply for an Academic Research Enhancement Award (AREA; NIH-R15) grant that would help solidify, expand, and sustain the cohort of experts with the goal of developing the next generation of data scientists through the experience of quality multidisciplinary collaboration. In fact, I’m currently planning to have students from my MATH 354 class complete summer research in developing statistical software for standard statistical approaches that will contribute to the collaboratory’s resource page.

I am also part of a team of colleagues, including Dr. Cooley, Lauren Philbrook (Department of Psychological and Brain Sciences, Colgate University), Jazmin Brown-Iannuzzi (Department of Psychology, University of Kentucky), and Ryan Lei (Department of Psychology, Haverford College), applying for a major research grant from the Picker Interdisciplinary Science Institute after our pre-proposal was invited for a full proposal. This work aims to explore the psychological processes that link race with social class, extending the ideas from the third paper with Dr. Cooley. Through this multidisciplinary project, we hope to better understand – and thus intervene to mitigate – distress and discrimination experienced by U.S. citizens.

Working with my colleagues in psychology, I will help develop resources and applications that will be made freely available on the resources page of the collaboratory mentioned above. These applications will allow any scientist to reproduce our findings and will make complicated discipline-specific methodology more accessible in RShiny – perhaps the most widely available venue for the dissemination of newer statistical methods. Researchers of all backgrounds will be able to utilize this methodology without the steep learning curve of a new programming language. We hope this will be the start of an arXiv-like resource that provides standard and advanced statistical procedures for bench and social scientists alike, making Colgate the place where data science is accessible to everyone.

Invited and Contributed Presentations at Professional Meetings or Conferences

I have given eleven research presentations – five contributed talks and six posters at professional meetings by consistently giving presentations at our profession's largest meetings: the Joint Statistical Meetings and the Joint Mathematical Meetings, as well as specialized conferences such as Bayesian Nonparametrics and Objective Bayes. I have also given an invited colloquium talk at SUNY Geneseo.

Establishing a Research Program Independent of the Candidate's Doctoral Dissertation

My research program has flourished well beyond my time as a graduate student. My recent advances in Bayesian nonparametrics toward statistical machine learning methodology has been tied to my experience with my advisor, Timothy Hanson, but has served as a conduit toward independent research as he has left academia, taking a position in industry. My current and future work in developing Bayesian nonparametric solutions will be independent of my dissertation and my productivity in statistics and multidisciplinary collaborations have materialized independently of my dissertation.

Organizing Research Conferences/Special Sessions at Professional Meetings

I am participating as a Mathematical Association of America Project NExT fellow. This program addresses improving the teaching and learning of mathematics, engaging in research and scholarship, as well as performing

service to the discipline. As a member of this organization, I have planned a session at the 2019 Joint Mathematics Meetings entitled “Standards-based Grading: Tools and Tips for Successful Implementation.” This session gives implementation-focused information from how to craft syllabi and course design that include standards-based grading.

Editorial Service

I have served as a referee for manuscripts submitted to *Biometrics* (2); *26th Annual European Symposium on Algorithms* (1); *Computational Statistics and Data Analysis* (2); *Problems, Resources, and Issues in Mathematics Undergraduate Studies* (1); *Journal of Statistics Education* (2); and *Interdisciplinary Sciences: Computational Life Sciences* (2). I have also served as a referee on a mathematical statistics textbook for *Wiley*.

In addition to this traditional service as a reviewer, in recognition of my multidisciplinary work, I have been invited to participate as a Scientific Review Officer on a panel for *The Small Business Disease Prevention and Management, Risk Reduction and Health Behavior Change* for the National Institutes of Health (NIH) and I remain an active reviewer available for future panels.

A Projection of My Continued research Interests and Endeavors

I have spent five successful semesters as an assistant professor and, as this statement describes, I have been very active in both my methodological contributions and applications of statistics in other disciplines. I have maintained an active program of research that I look to extend as I look to the future. My goal is to continue to develop new Bayesian nonparametric methods to address the need for more flexible modeling procedures as well as collaborating on multidisciplinary projects where statistics can be used to address real problems arising in sociology, psychology, biology, and medicine.

More specifically, my personal research goals for the next three years are to average 1-2 research publications per year in reputable statistics journals; to average an additional 1-2 research publications per year in reputable journals in other disciplines; to build a new collaborative relationships with statisticians and scientists from other areas and institutions; and to continue to be active in research activities by refereeing papers, participating in conferences, etc. Below, I delineate current work and future projects aimed to achieve these stated goals.

Bayesian Nonparametrics: I am currently working to create computationally efficient and flexible approaches for prediction and feature selection with future work on new approaches to unsupervised learning. I believe this will be a fertile avenue for research productivity due to the relative infancy of Bayesian nonparametrics research in terms of its methodological application and its increased use in scientific research.

Specifically, I am currently working to extend the paper accepted at *Advances in Data Analysis and Classification*

to the continuous-response case. Doing so requires a significantly improved approach to smoothing. While some work in doing this has been completed by sampling from the Haar distribution, essentially a uniform distribution on orthogonal matrices, I believe an alternative approach can provide a more efficient but equally effective solution. This new work will propose candidate orthogonal matrices using Householder reflections which leads to a more computationally efficient MCMC scheme for smoothing. This smoothing will be paramount to the extension while retaining the computational efficiency of the original result.

The approaches to unsupervised learning would involve models similar to the paper accepted at *Advances in Data Analysis and Classification* and the current work to extend it but requires a completely new framework for these models to be employed. I have some ideas for hard clustering via Polya trees based on the framework of Chen et al. (2016), which would require deriving a variety of attributes about a multivariate Polya tree. These derivations should require an MCMC scheme with additional hyperparameters to guarantee the Polya tree is not only continuous but also differentiable. This is necessary because the local modes are related to the gradient vector of the estimated density curve.

An additional future project exists in an extension to the *Statistics and Computing* paper by reworking the computationally tractable smoothed approximate Polya trees to the heteroskedastic case. This would allow us to create an accelerated failure time model for survival data that would add substantial modeling flexibility to the current approach, likely decreasing the impact of outliers and likely decreasing the average size of prediction intervals.

As I complete my current and future work, I am also working to make new and previous research available to other statisticians and researchers as an R package and via RShiny applications.

Statistical Collaboration: I am currently working with Dr. Bower to develop two score tests for testing independence based on different specifications of the bivariate Pareto distribution, as motivated by questions about the independence of gestation time and brain weight for placental mammals. Future work includes further collaboration in developing score tests for independence due to their importance in biological and social sciences. We've discussed several projects including expanding our results to the more flexible negative binomial and Delaporte distributions, and to zero-inflated models that are important for social and health science experiments where data contain both structural (e.g., subjects that abstain from drug use) and random zeros (e.g., those that happened not use during the study) which may yield very different outcomes (e.g., depression or heart health).

I am also working with Joshua Tebbs (Department of Statistics, University of South Carolina), Chris McMahan (Department of Mathematical Sciences, Clemson University), and Christopher Bilder (Department of Statistics, University of Nebraska, Lincoln) on NIH-funded research involving pooled testing, with a focus on sexually transmitted diseases. This testing protocol allows doctors to quickly screen populations for low-prevalence

infectious diseases by testing pools of specimens once. If the test comes back negative, the whole pool is diagnosed as disease-free, and if the test is positive, algorithms can help divide the pool into smaller groups for retesting to efficiently pinpoint the infected individual. By leveraging previous Bayesian regression techniques and devising a new framework on which to apply supervised learning, we hope to create a methodology that accurately identifies misdiagnosed patients. Currently, we are reaching out to clinics in New York State to acquire de-identified data that will help us evaluate existing methods and develop a new approach that uses the risk-factors of patients to assess the likelihood of misdiagnoses in a pooled-testing setting on the patient level.

Multidisciplinary Collaboration: I am currently working on another project with Dr. Da Silva. We propose a quantitative model of “squeeze theory” on ISIS; e.g., we expect more events in the U.S. and Europe when we bomb, take more land back, etc. This project was the result of sharing an interesting dataset with Dr. Da Silva, who researches terrorism through a sociological lens and conversing about the possible implications. While sociologists and other researchers have completed qualitative research, very little has been done to quantitatively measure this theory. Many researchers expect that the squeeze theory should be quite clearly quantifiable and are excited about the results.

I recently started a multidisciplinary research project with Dr. Bower and Annie Ray (Department of Biology, Xavier University). Through a carefully designed experiment, we quantified how the presence and amount of a pheromone affect the number of beetles captured in traps. Preliminary results suggested that high pheromone levels attracted beetles to the trap and the biologists are collecting additional data, under varying conditions, which will be analyzed with negative binomial count regression models and analysis of post-hoc contrasts.

I have also started working on a project with a colleague Don Sull (Sloan School of Management, Massachusetts Institute of Technology). This project aims to define corporate culture using posts on an employee review website by creating a statistical model that predicts the ordinal culture score (1-5) given to a company by an employee-reviewer based on the features created with text from the free-response questions. This collaborative project stemmed from discussions about my work on data mining and applying natural language processing to tweets. Using Bayesian ordinal logistic regression, preliminary results suggest that health care positions (e.g., pharmacist, pharmacy technician, physician, physician advisor, or therapist) and front-line employees (e.g., driver, maintenance workers or unskilled laborer) report the lowest culture scores, on average.

I am working on a project that will be presented at the *Public Policy and Public Administration section for the 50th-anniversary meeting of the Northeastern Political Science Association* in collaboration with my colleagues Andrew Pattison (Program of Environmental Studies, Colgate University) and Jose Marichal (Department of Political Science, California Lutheran University). We expanded upon current work by applying the approach of Gupta et al. (2018) to tweets that mention fracking policy in New York State. This type of discourse framework

is employed for the first time using advanced methods in natural language processing, allowing us to explore a much larger corpus of tweets (263,000) over a much longer time frame (6 years) to examine whether policy changes (e.g., fracking bans) impacted the types of narratives used by elites to sway elite/mass opinion.

I have a project on the horizon with Kris Macomber (Department of Sociology, Meredith College) and Juliette Grimmett (Founder of the Chrysalis Network). This project is an inquiry into sexual assault on female-only college campuses for which there is little-to-no quantitative research. This project was the result of my surprise in hearing about the dearth of research in this area during a session at a Sociology conference Dr. Macomber and I presented at, and subsequent conversation. We are currently collaborating on laying the groundwork for an NIH grant to help fund conducting a nationwide survey across thirty-seven women's colleges and universities in the U.S. This inquiry is designed to illuminate the campus climate and start a new line of research about sexual violence as findings are likely to require further exploration.

Statistical Education: I have spearheaded the effort to revise and develop the statistics curriculum at Colgate by redesigning several courses. Numerous students have told me how much they appreciated the rigor of these courses and the clear connections made to other disciplines through application.

A major contribution I make in the area of instruction is to create course notes that are available to students online. At Colgate, I have created notes for MATH 105, MATH 316, and MATH 416 and I have started creating notes for the new sequence of courses MATH 354 and MATH 454. Preparing these notes is a huge time commitment, but the response to them has been positive while allowing me to cover graduate-level material in the undergraduate setting. Even students not enrolled in my courses tell me they have downloaded my notes for future use in preparing for actuarial exams, interviews, and their graduate courses. My course notes are not merely PowerPoint slides; rather, they are textbook-quality summaries of examples, ideas, and theory written using L^AT_EX.

The notes for MATH 105 are close to submission-ready and I plan to submit them as a textbook after I teach that course again in Fall 2019. The MATH 316 and MATH 416 notes will require another year of work. These texts push the pedagogical aspects of statistics beyond algebra that can be completed with a pad and paper. The aim of these texts is to provide challenging material to the modern student who is capable of more, having learned in a time when technology and computing are ubiquitous. For examples, the introductory statistics textbook synthesizes modern statistical approaches to classical problems by teaching the methodology R uses to calculate statistics and how they are interpreted, not the simplified versions seen in traditional introductory texts; and the probability and mathematical statistics notes use R to visualize theory so that students can see and understand complicated mathematical concepts and application usually left for a graduate-level course by discovering results graphically before derivation.

Service

In five semesters at Colgate, I have hosted Commons events and participated in many recruitment endeavors, like April Visit Days Events, opening my classrooms to visiting students, and meeting prospective students particularly interested in mathematics. I have led student trips to conferences and competitions; e.g., the DataFest17 competition and Hudson Valley Undergraduate Math Conference. I also proctored the Putnam exam in Fall 2016. I have discussed meeting tenure-stream candidates with Tracey Hucks and have been an eager participant in that new initiative, meeting with candidates for chemistry last year. I also regularly attend White Eagle, teaching tables hosted by the Center for Learning, Teaching and Research (CLTR), orientation events for new faculty, and I helped plan the last NASC retreat, which I also presented at. I am a member of two committees – I am in my first year of a three-year appointment to the Faculty Development Council as well as a member of the Research Computing Committee from which the Inter-Institutional Statistics Collaboratory was born. I look forward to contributing to the Colgate community, both current and prospective students and faculty.

Conclusions

I aimed to jump in and innovate as I started my academic career by pushing myself past my comfort zone. As a statistician at Colgate, I have enjoyed an exciting, important, and demanding role, assuming the responsibility for both statistical education and collaboration on campus. I believe that this role is increasingly important as statistics plays a more prominent role, in both research and education, across disciplines of the liberal arts. The methods of knowledge creation and evaluation that statistics provide are not just a set of tools, but help direct a lifetime of learning and curiosity. I have found reflection on my teaching practice, and feedback (from colleagues and students) have led me to a course design that allows me to go above and beyond to facilitate quality graduate-level learning in the undergraduate setting through thoughtful instructional practice and authentic assessment including formative work.

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Student Outcomes

Last updated: January 13, 2019.

This section provides a complete summary of student outcomes from Fall 2016 to the date last updated above.

Course	Semester	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F	W	S
MATH 354A	Fall 2018	1	1	3	2	4	4	2	0	0	0	1	0	0	0	0
MATH 316A	Fall 2018	1	2	6	4	9	2	0	0	0	0	0	0	0	1	0
MATH 105A	Spring 2018	0	10	15	17	10	3	5	6	2	2	0	0	0	3	0
MATH 491Z	Spring 2018	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
MATH 416Z	Spring 2018	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
MATH 399Z	Fall 2017	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
MATH 316	Fall 2017	0	3	3	6	9	8	1	1	0	0	0	0	1	2	0
MATH 105	Fall 2017	1	7	22	46	36	11	7	4	4	4	4	3	3	0	0
MATH 317Z	Spring 2017	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
MATH 317	Spring 2017	0	8	6	1	4	2	0	0	0	0	0	0	2	1	0
MATH 105Z	Spring 2017	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
MATH 105	Spring 2017	5	17	16	32	39	18	8	3	2	2	1	0	2	0	0
MATH 316	Fall 2016	0	0	5	1	5	3	0	1	0	0	0	0	0	1	0
MATH 316	Fall 2016	2	3	3	7	5	2	0	1	0	0	0	0	0	1	1
Percentages		1.9	10.7	15.3	22.4	23.4	10.2	4.4	3.1	1.5	1.5	1.1	0.8	1.5	1.9	0.2

Student Feedback

Last updated: January 13, 2019.

This section provides a complete summary of student evaluations from Fall 2016 to the date last updated above.

As an Assistant Professor at **Colgate University**, I have taught 4 different courses:

- MATH 105: Introductory Statistics
 - *Target audience:* Mostly freshmen and sophomore non-major students from across the university.
- MATH 316: Probability
 - *Target audience:* Upper level undergraduate students mostly Math, Math-Econ, Math-Computer Science majors
- MATH 317: Mathematical Statistics
 - *Target audience:* Upper level undergraduate students mostly Math, Math-Econ, Math-Computer Science majors who have taken MATH 316
- MATH 354: Data Analysis I
 - *Target audience:* Upper level undergraduate students mostly Math, Math-Econ, Math-Computer Science majors

It is required that each student completes a course evaluation towards the end of the semester. Likert analysis provides five meaningful dimensions of teaching I find particularly important – “Course Standards/Challenge,” “Effectiveness at Conveying Course Material,” “Grading/Evaluation,” “Student Self-Rated Learning,” “Teacher-Student Interaction and Rapport,” and “Initial Interest in the Course,” as well as the “Initial Interest in the Course.” A standard 5-point scale is used as a measurement system (5 = best) and these ratings are provided in the table below as the percent that agree with the percent that strongly agree in parentheses.

Course	Semester	Surveys	“Challenge”	“Effective”	“Grading”	“Learning”	“Rapport”	“Interest”
MATH 354	Fall 18	17	96.1%(74.5)	83.5%(60.0)	84.4 (47.1)	92.9%(60.0)	100%(92.2)	88.2%(58.8)
MATH 316	Fall 18	23	82.1%(49.3)	77.4%(36.5)	71.0%(29.0)	74.0%(27.0)	85.5%(56.5)	60.8%(21.7)
MATH 105	Spring 18	57	90.7%(39.2)	83.5%(49.8)	81.8%(48.5)	75.4%(28.9)	94.7%(69.4)	46.4%(21.4)
MATH 316	Fall 17	25	93.3%(56.8)	72.0%(36.0)	65.3%(33.3)	70.4%(24.8)	88.0%(48.0)	88.0%(32)
MATH 105	Fall 17	96	90.3%(40.3)	90.6%(49.6)	81.5%(41.8)	93.4%(66.2)	55.2%(19.8)	55.2%(19.8)
MATH 105	Spring 17	128	85.7%(37.9)	65.1%(21.6)	57.5%(19.6)	55.8%(15.5)	70.0%(28.6)	40.6%(07.8)
MATH 317	Spring 17	20	80.0%(45.0)	69.0%(12.0)	85.0%(40.0)	69.0%(20.0)	83.3%(35.0)	85.0%(30.0)
MATH 316A	Fall 16	24	84.8%(41.7)	90.0%(50.0)	81.9%(47.2)	87.5%(45.8)	95.8%(73.6)	83.4%(41.7)
MATH 316B	Fall 16	9	81.4%(48.1)	84.4%(42.2)	100%(66.7)	82.2%(51.1)	100%(70.4)	88.9%(66.7)

Below I provide written student comments taken from the evaluation forms at Colgate University for the questions

- **(Reason)** “Why did you take this course?”

- **(Effort)** "Describe the effort that you put into this course;" "How did this course contribute to your understanding and appreciation of the course subject?"
- **(Understanding & Appreciation)** "In what ways did the course contribute to your intellectual growth or education, beyond your understanding and appreciation of the course subject?"
- **(Intellectual Growth)** "In what ways did the course contribute to your intellectual growth or education, beyond your understanding and appreciation of the course subject?"
- **(Quality)** "Please describe in precise terms your opinion of the quality of teaching in this course, giving special attention to what you consider important strengths and/or weaknesses."

MATH 105: Introductory Statistics

Spring 2017: Section A

- Student 1
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** This course required a demanding but steady level of effort. With the pop quizzes, I had to review my notes every day in order to be prepared for class. Also, the homework assignments were relatively time consuming so I had to plan in advance to complete them. In order to do well in this class I did have to put in a lot of effort into the class, but it was very manageable and doable.
 - **Understanding & Appreciation:** I had never taken a statistics class before this one and so I didn't really know what to expect. I ended up enjoying statistics because even though I don't plan on taking any more math classes, I can see how my knowledge from this class will be helpful in my future endeavors.
 - **Intellectual Growth:** I believe the things I learned in this class will be helpful in whatever discipline I decide to go into. The knowledge from this class will also help me to simply better interpret data when presented for example in the news. Also, this class helped me to be my own advocate and take initiative because with such a large class, you had to actively seek out help.
 - **Quality:** Professor Cipolli obviously cares a great deal about his students and wants us to succeed. He had many office hours and if you came prepared, he was always willing to help. It was also obvious that he put a lot of effort into the course. I found the practice problems and powerpoints he posted to be helpful. Professor Cipolli also was very open to feedback as he periodically would ask students to give input on the class and then tailor it to our wants. Sometimes in class, however, he would move really quickly or not introduce a topic well. Sometimes I would leave a class feeling even more confused and would end up just having to teach myself through the powerpoints.
- Student 2

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I came to class every day and took notes on all of the power points. I put a great of effort into this class through the homework assignments, the writing assignment, and the numerous pop quizzes/standards that we had. I was constantly reviewing material and making sure I knew everything in order to do well on the standards because for most of the semester, they were pop quizzes.
- **Understanding & Appreciation:** I want to be a psych major, so being in this class has definitely helped me to better understand statistics that would be necessary to have a career in psych, etc. I am not very much of a math person, so this class was just the right amount of math that I like to be involved in. However, I don't think that the methods that the professor used to teach the subjects to us were very effective. For the most part, I learned most of the material from the online homework assignments than I did in class.
- **Intellectual Growth:** I think that, being in a huge lecture style class, has taught me that this is not the right style of class I can learn most productively in. For a math class, I thought it was okay, but if I want to take a math class again, it will not be in a huge class.
- **Quality:** I do believe that Professor Cipolli does want us to understand the material and get good grades. However, he seems to be very stuck in his notion of teaching and, although he gives out numerous surveys to see what we think of his teaching, he rarely actually listens to what the students have to say. The way that he does quizzes is very frustrating because we can be pop quizzed on the same topic more than once, but rather than the highest grade being the one that counts, it is the last grade that counts. I have had numerous times where I have scored well on the first standard/quiz and then on the retake of the same topic I have scored poorly, simply because it was an off day for me or I was so swamped with other work the night before I couldn't review the material. I believe that this is a horrible way of teaching because it assumes that all students are equal in their learning styles and review strategies. It also diminished all the hard work I put into studying for a specific topic simply because I didn't review all the material every single day. Overall, I enjoyed the topic of statistics and I liked the examples he used and his humor. I also liked the homework as a way to learn the topics better and as a grade booster, but there were parts of the semester that really frustrated me, and I'm sure many other people in the class.

○ Student 3

- **Reason:** Major or minor requirement
- **Effort:** I put effort into this course by doing the homework, attending lectures, and spending time studying for the cumulative quizzes and exams.
- **Understanding & Appreciation:** This course helped me better understand the methods of calculating and representing data in a way that is easy to understand.
- **Intellectual Growth:** The concepts I've learned in Stats have found their way into my other courses; when

writing lab reports for General Chemistry, I found myself going back to the methods I learned in this course and applying them to the task at hand when organizing my data.

- **Quality:** Prof. Cipolli is very down-to-earth and very approachable and has a vast understanding of statistics, both theoretical and applicable. He has a quirky personality that makes something as boring as mean, median, and mode tolerable and possibly even enjoyable.
- Student 4
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I completed all assignments and attended all class lectures. When I did not understand a topic I found a tutor that I worked well with and attended office hours
 - **Understanding & Appreciation:** The last time I took statistics I was in high school. This course broadened my understanding of statistics and provided a space where the content of the classroom became applicable to real world.
 - **Intellectual Growth:** The course challenged me and required me to think in ways I was not necessarily accustomed to and an Educational Studies and Women's studies major.
 - **Quality:** I struggled with the large class settings and found myself getting lost in the lectures, which is symptomatic of the class size not the teaching style. The moments I learned most were in Professor Cipolli's office hours when I was able to receive more one-on-one time. Professor Cipolli took steps to try to create an inclusive space for his students.
- Student 5
 - **Reason:** Other requirement
 - **Effort:** There was a lot of quizzes which I felt I should be prepared for so I spent a lot of time with that. I also put a lot of effort in the homework.
 - **Understanding & Appreciation:** This course opened my eyes to the math department which I was scared of before.
 - **Intellectual Growth:** This course contributed to my intellectual growth because it is a class I didn't think I was interested in and was taking to fulfill a requirement but I realized I do like having some sort of "math" class in my schedule.
 - **Quality:** Professor Cipolli was helpful in office hours and easily accessible. However, in class, he could sometimes be belittling and rude. I also did not know what was going on in class all the time, but in such a big class, was scared to ask questions because I knew that he was not always helpful in answering them. I also did not like the standards quizzes. He counted the most recent, not the best grade, which I think hurt instead of help the students. I think the amount of testing we had was similarly not beneficial because I feel that I spent more time trying to memorize how to do problems instead of actually learning the material. I do

think that 1 on 1, Professor Cipolli is helpful and personable and is definitely easily accessible and seems like he genuinely cares about his students. However, I think the amount of testing in the class causes unnecessary stress for the students and therefore isn't beneficial.

o Student 6

- **Reason:** Other requirement Additional Reason(s): Med School Requirement
- **Effort:** I put a great deal of effort into this class. The first half of the semester was random pop quizzes, so we had to study all the material everyday before class. On top of that the homework typically took 3 hours to complete, and that coupled with the writing assignment and the readings was a lot to handle but also manageable
- **Understanding & Appreciation:** I now have a strong appreciation for statistics and statisticians. I didn't think I would like this course but Professor Cipolli has made it extremely interesting and engaging
- **Quality:** I really enjoyed Professor Cipolli's teaching style. He has great concern for his students at that really shows through. He is extremely funny and approachable and always brings in great class discussion. I thought he did a great job teaching this class, the only part I did not like was his grading style. There has been a lot of pushback from use of the standards (Random pop quizzes) but I actually think they are a good idea. It makes us student more often and more frequently, and as a result I know the material better and feel much more prepared for the final. What I don't like is how these quizzes are graded and scaled. I don't think that an A should be 4 (100%) on all quizzes. That's basically saying that a 90 and a 100 are the exact same grade, because if you get a 3 on just one of the quizzes you're already down to an 89 and that doesn't seem fair to me. Now I know that you have mentioned various times that you don't have to get a A on the standards portion to be able to get an A in the class, but my point is that it should be somewhat more achievable to get an A on the standards. Now yes, there are apparently 30 students in the class who do have an A, but I think that again, this grading system is not appropriate, and just because I have two 3s and the rest 4s I have an 87, and that does not seem fair to me.....Overall though I think Professor Cipolli is great and I really enjoy his teaching style, I wish I was planning on taking more classes in the math department because I would enjoy having him as a professor again

o Student 7

- **Reason:** Other requirement; I knew that statistics are complicated and are not always straight forward, did not need to be constantly retested on old material that I did well on but not the second time around because I was studying the new material and forgot a thing here or there; I've demonstrated that I knew the material before hand so why penalize me when I failed to remember every aspect of it while I was studying for the new material and while I had other chaotic things going on in my schedule.
- **Effort:** The course was challenging, I often had to devote more time than I expected on learning the material.

I hate how our grades for the standards can drop even if we got a perfect score on them once or twice but forgot a detail here or there as we were studying for the newer material. If he told us what the older material was going to be retested again, then I would be okay. But what I am not okay with is doing hypothesis testing we learned in late April and then being asked to recall probability questions that we learned in the third week of class with no notice. I get that Cipolli wants us to know the material but expecting us to know everything from early in the semester up until now and constantly study it, is asking for too much.

- **Understanding & Appreciation:** None, knew that statistics are complicated and are not always straight forward, did not need to be constantly retested on old material that I did well on but not the second time around because I was studying the new material and forgot a thing here or there; I've demonstrated that I knew the material before hand so why penalize me when I failed to remember every aspect of it while I was studying for the new material and while I had other chaotic things going on in my schedule.
 - **Intellectual Growth:** None, knew that statistics are complicated and are not always straight forward, did not need to be constantly retested on old material that I did well on but not the second time around because I was studying the new material and forgot a thing here or there; I've demonstrated that I knew the material before hand so why penalize me when I failed to remember every aspect of it while I was studying for the new material and while I had other chaotic things going on in my schedule.
 - **Quality:** I do not like his grading and learning philosophy when it comes to the standards. Cipolli is a smart and talented person but he expects way too much from a 100 level introductory course. I know that he wants us to be interested in math but no all of us are math majors, some of us just took this course to have a little breathing room from our other courses but instead he expects us to care and master the course as if it were a seminar or 300 level course. I admire the passion but it is very disproportional to the actual level of the course; some students just want to learn the material and do well but he expects us to think about statistics in such a broad way that it seems a little presumptuous for a 100 level class
- o Student 8
- **Reason:** Interest in the course material
 - **Effort:** I put a good amount of effort into this course to prepare for the frequent pop quizzes in the beginning of the semester. Reviewing the subject material on a pretty consistent daily basis was necessary to grasp the material for these quizzes. I also put in a lot of effort into the writing assignment. This assignment challenged us to use concepts taught in class along with a coding program, which required a lot of effort to try to understand how to use the R code properly.
 - **Understanding & Appreciation:** This course contributed to my understanding and appreciation of the course subject by teaching me mathematical concepts and procedures that are very applicable and relevant in the outside world.

- **Intellectual Growth:** This course contribute to my intellectual growth beyond my understand of the course subject by enabling me to apply the things we learned in this class to other classes. This course also taught me the importance of making the effort to understand what is taught by reviewing a little each day instead of waiting the day before a test to review the information.
 - **Quality:** Professor Cipolli did a good job of engaging with the students. He was enthusiastic about his teaching and the subject matter. He also made a great effort to answers all questions and to be available for office hours. I feel like it was effective when we had days where students would just ask any questions they had about the chapter. I also like when professor Cipolli spends time working out example problems on the board. This is more helpful than listening to the power points, which I wasn't always clear on. I think it would have been helpful if this style of teaching was introduced earlier in the semester.
- o Student 9
- **Reason:** Core or Areas of Inquiry (distribution) requirement Additional Reason(s): I took this course to satisfy my math distribution requirement. It was the only class available that I could take without a lab.
 - **Effort:** I put a great deal of effort into this course. It's frustrating that I had to struggle so much in an introductory class that doesn't apply to my major or interests.
 - **Understanding & Appreciation:** This course taught me a decent amount about statistics but I had learned a lot of the material in high school. I think the instructor made it more complicated than it needed to be and as a result we didn't get through all the material.
 - **Intellectual Growth:** This course didn't contribute to my intellectual growth beyond the course subject.
 - **Quality:** This course was my least favorite. The material wasn't difficult yet the Professor complicated it and quizzed us relentlessly but didn't tell us what we were going to be evaluated on. I studied and did all my homework and put a great deal of effort into my writing assignment yet I continued to struggle in this course. It wasn't until the last few weeks that I began to feel like I was not only getting it but also able to demonstrate that on my quizzes. The power points he used for the beginning of the course were not helpful. The last few weeks he began to do examples on the chalkboard and this helped a lot. Also switching the quizzes from pop quizzes twice a week to once a week on a set day was helpful. The professor's office hours were not stable and confusing. I went to his office many times expecting him to be there and he was not. Also he expected us to use computer software R but didnt effectively teach us how to use it. Further, this course was a massive waste of money. The online "textbook" cost \$105 and we never used it. Also the instructor required us to buy an unecesary book and iClickers which also are expensive and can't be reused or resold. This was a poor choice and I'm disappointed that 154 of us had to suffer the consequences.
- o Student 10
- **Reason:** Major or minor requirement

- **Reason:** Exploration of possible major or minor
 - **Effort:** I put in a good amount of effort into this course. I would go through the powerpoints and do the practice problems to prepare for the quizzes.
 - **Understanding & Appreciation:** I have learned some introductory statistics topics. This course made me like statistics more.
 - **Intellectual Growth:** It allowed me to see how statistics are prevalent in everyday life.
 - **Quality:** The quality of teaching in this course was fair. The professor kept changing the way the course was taught, differing from what it said on the syllabus. He tried to challenge us and truly wanted everyone to learn. I understand this is a lecture class with many students but the professor seemed to get frustrated with attendance and how some people were performing on the standard quizzes and he seemed to put the consequences on everyone. When I submitted my extra credit assignment, I went into the specifics of the revised syllabus for next semester and mentioned many great constructive points but happened to mention one incorrect statement. He responded saying I did not read the new syllabus at all, neglecting all my other helpful comments. This is an example of how the professor was not always receptive and kind, showing in the light turn out of office hours.
- Student 11
- **Reason:** Interest in the course material
 - **Effort:** i came to class ready to take copious notes each day, i completed every assignment on time and attempted to prepare for each standards quiz beforehand, even when they werent announced.
 - **Understanding & Appreciation:** I didn't find the material all that interesting or helpful, but people say it will be.
 - **Intellectual Growth:** I was challenged to teach myself frequently because I felt that professor Cipolli could not do so in a way that i truly understood. I would get lost frequently and feel afraid to speak up because he was sometimes condescending in class.
 - **Quality:** He seemed like he cared but was unfriendly in office hours and in person. He made me feel bad about myself and my level of learning for not getting some things. He encouraged students to ask questions and handled them well when they did. his teaching was somewhat unclear
- Student 12
- **Reason:** Major or minor requirement; Exploration of possible major or minor; Core or Areas of Inquiry (distribution) requirement; Interest in the course material
 - **Effort:** I put a LOT of effort into this course and did all of the HW and practice problems.
 - **Understanding & Appreciation:** It made me interested in the applications of statistics.
 - **Intellectual Growth:** Made me get outside my comfort zone and learn R Studio.

- **Quality:** I think the quality of teaching was half-decent. I feel as though I could have looked at the power points online from my bed because there was not a whole lot of explanation from the professor, up until the end of the semester. I think some aspects need to be revisited of this course, such as the weekly quizzes. Although it forces us to keep on top of the standards, it is simply a lot of material to always have to review before the quizzes because we don't know what they could be on. I could understand weekly quizzes with topics we had just learned, but getting retested on a super old standard, only to do worse than you did before, is aggravating and disheartening. I understand that statistics is a cumulative subject, which is why I think that as the semester progresses, the quizzes should only be of what we learned because it incorporates previous skills and knowledge.
- o Student 13
 - **Reason:** Major or minor requirement; Interest in the course material
 - **Effort:** I have always been good at math and I assumed that through hard work, I would enjoy Statistics as well. However, I was wrong. First of all, Statistics is not math. It just isn't. There is very little quantitative problem solving until much later in the semester. Second, I worked so hard in this course purely based on the fact that I don't like to feel like i'm in the dark and when i'm confused, it just makes me work harder.
 - **Understanding & Appreciation:** I still feel like I have absolutely no idea what I'm doing, all of the time. And i promise, I went to tutoring hours, office hours, and had my peers help me.
 - **Intellectual Growth:** I guess you could say it taught me how to not have mental breakdowns every time I did poorly since it was happening frequently. There was little to no help provided and the little help there was did nothing. So, it was a very independent semester.
 - **Quality:** Cipolli is a funny guy. However, he is not a very compassionate teacher. I would feel like I couldn't go into his office hours and be totally confused because he would get frustrated with me. That shouldn't be the case. He also should work on being so passive aggressive. In a class of 150+ students, many people will not feel comfortable talking. That's unfortunately just how it is.
- o Student 14
 - **Reason:** Major or minor requirement
 - **Effort:** I did most of the practice problems before quizzes, but usually studied the night before. This wasn't my top priority class, but I still think I gave it a decent amount of my time.
 - **Understanding & Appreciation:** The class did show some interesting things that you can do with stats. I especially noticed this in the writing assignment, where we got to play with data ourselves.
 - **Intellectual Growth:** I think this class has taught me to take statistics reported in the news and elsewhere with a grain of salt, and to be skeptical when someone reports general numbers like that.
 - **Quality:** I think the professor genuinely did care about how the students did in this class. He really seemed

invested in what we were learning. However, I think his expectations for the amount of work that we could put into one class were very inaccurate. His grading procedures, while clearly explained, did not seem to make much sense. I get that retesting is supposed to keep you improving throughout the semester, but it's difficult to appreciate when I've made four errors on quizzes all year and my grade drops a whole letter grade. I don't understand why answering 95% of questions correctly gives a score of an 85. Additionally, incorporating R Studio and coding into a mandatory writing assignment was very frustrating, and I found myself focusing more on the software than the statistics. The time necessary to get every single question correct all year and learn how to manipulate a coding software felt unreasonable with three other courses. I simply didn't have enough time in the day to live up to the professor's expectations of me.

○ Student 15

- **Reason:** Major or minor requirement; I have never skipped class, or even had the desire to, before this class.
- **Effort:** I put in considerable effort outside of class, because it was required to teach myself the material. I did not learn in class very often, as his teaching was more lecture style than working through the mathematical processes.
- **Understanding & Appreciation:** I'm glad I learned the few skills I learned, I feel as though they will be useful and have real world application, but I will also never take a math class again. This is very irritating because I know how valuable these skills are. I wish I had taken this class with a professor that didn't talk down to the students so much.
- **Intellectual Growth:** I was able to use the skills I acquired on my own in other classes – but that is all. That, and all the skills were skills I learned because I put in the effort to teach myself – I did not learn a great deal from prof. Cipolli.
- **Quality:** Putting aside how condescending he was, and how distracting that was from the actual content of the course, he did change his style a bit at towards the end of the semester, making it more geared toward problem solving. However, at that point in the course, I had stopped caring entirely. Maybe this is his first time teaching a class this large, and he wasn't prepared.

○ Student 16

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I did all the homework and asked questions. I would have went to office hours, but as the semester progressed, I felt less comfortable doing because the professor became condescending. By the end of the semester I had no desire to put any effort into this class.
- **Understanding & Appreciation:** It didn't.
- **Intellectual Growth:** It didn't.
- **Quality:** I'm very disappointed in the quality of teaching. When going through problems together on the

board, the professor would explain things as if we were all statisticians. He rarely ever did problems with the class that were from class worksheets, instead he would go online and find an article and make up a random problem. That would have been an interesting way to present course material if we did that at the end of a unit. He would do that the first day we started a new unit and then never go over how to solve worksheet problems. Then he'd randomly have days where we'd work on a worksheet on our own and he'd "float around to answer questions." That was a horrible idea because we have almost 150 students in the class...I never had a question answered. He was also often very insulting and condescending and fostered an environment that I did not feel comfortable in. I'm so glad this semester is over.

○ Student 17

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** Until about halfway through the year, we had 1-2 pop quizzes a week on any information from the entire year so I would have to review all of the material we had learned. Now our quizzes are announced but we still do not know what topics are going to be on them. We also had online homework, optional practice problems (essential to do well on quizzes), a writing assignment, and a midterm/final exam.
- **Understanding & Appreciation:** I enjoyed learning about how statistics is applicable in real life in our everyday actions. It helped me to appreciate the subject as more than just math, which I usually find to be time-consuming and rather boring.
- **Intellectual Growth:** It helped me to look at everyday statistics in the news/media/etc. with a more critical eye. I think these techniques will help me in real-life scenarios when I have to gather and summarize data, whether it be for a class paper or a job assignment.
- **Quality:** This class took a long time to get on track; from the beginning there was a disconnect between what the professor expected and what students were doing. The unannounced pop quizzes added chaos and stress to the class, yet the professor was extremely reluctant to hear us out or make any changes that we proposed until second semester after spring break. When he posted solutions online, there were so many typos that I could not understand how to correctly do the problems. Additionally, he has expected us how to use R Coding Software without giving us any explanation on how to use it. When going to his office hours to ask for help on this, he was rather condescending and unwilling to help. Overall, I think the class has gotten better throughout the semester but he has been extremely reluctant to make positive changes.

○ Student 18

- **Reason:** Other requirement; Interest in the course material; Need stats for grad school
- **Effort:** I reviewed my notes for at least 10 mins before each class, read from Naked Statistics, did the practice problems, and completed the Pearson homework.
- **Understanding & Appreciation:** I thought the examples that were used were really interesting and engaging.

- **Quality:** I personally really enjoyed the class. I am not very math inclined and I was able to do well in this class by putting in the effort. While I did not have a problem with Prof Cipolli's humor, I do know that other students found it to be insensitive and mean. I enjoyed the teaching style. I thought all the assignments were productive to our learning and thought it was great that the WA were based in other subjects so we could choose what interested us. In the surveys that we completed in class, I was surprised by some student responses that this class required too much work as most of us do not want to be statisticians. I would just like to respond that as a Junior here who has taken multiple intro level courses, this class asked nothing extreme. The standards quizzes were extremely fair and I don't think it is unfair to ask students to review their notes for these quizzes (I read over for 10 mins each time and I got 4s on all of them). I thought the idea of standards quizzes was great even though slightly terrifying at first. I can honestly say that I have a great understanding of what we learned in this course and I don't think this would be the case without these standards quizzes.
- o Student 19
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** In the beginning I did not try very hard until I realized that I would need to teach myself some of the material and do practice problems in order to understand anything and actually do well in the course. After that I started to put more effort into understanding the material. I also spend a considerable amount of time on the homework because it takes so long to get through all of the questions, especially because some of the homework questions include material that is never taught in class.
 - **Understanding & Appreciation:** This course did help me to understand probabilities better, and I do appreciate it more so because I have realized that statistics is harder than I first believed it to be. Overall though I did not enjoy this class.
 - **Intellectual Growth:** This course showed me how to teach myself and actually do practice problems in order to do well, which will help me later in school. Overall I do not feel that it furthered my education much because we did not do much actual analysis of real world problems where we could learn to use statistics in our everyday lives.
 - **Quality:** Professor Cipolli did not teach the material in a way that made it easier to understand and even over-taught sometimes, making the material more confusing than it needed to be. He should have spent more time on certain chapters and done more practice problems in class because I feel that was the best way for the class to learn. Much of his lectures taught me nothing.
- o Student 20
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** This course was extremely difficult for an intro level statistics course. I put in time studying before

each class as there were often pop quizzes. Despite changing this to announced quizzes I am still required to study just as much if not more to prepare for each class.

- **Understanding & Appreciation:** I honestly will never enjoy math but I can understand on a conceptual level that statistics is pertinent to almost every academic discourse and therefore extremely important.
 - **Intellectual Growth:** This course required that I relearn how to study for a formula based math course as it has been years since I have taken such a class.
 - **Quality:** Professor Cipolli was figuring this class out as he went. He is extremely approachable and easy to talk to, provided many resources in order to succeed. However, the workload was unrealistic if his goal was mastery. This was a consistent frustration for me as well as many other students in the course.
- Student 21
- **Reason:** Elective outside major or minor
 - **Effort:** I worked really hard for this course and reviewed all course material before almost every class. I spent around 12 hours on the writing assignment.
 - **Understanding & Appreciation:** I now have a better understanding of statistics.
 - **Intellectual Growth:** Prior to this class, I hadn't taken a math class for a really long time, so this course helped me use skills that I hadn't used in a long time. I am also now more critical of the statistics that I read about in the news.
 - **Quality:** Prof Cipolli is intelligent about the subject matter. However, he is very condescending. One time when I went to his office hours, I realized I had an additional question that I wanted to ask. It took me about 20 seconds to formulate my question and in that time he thought it was appropriate to put his head down on the table, without explaining why he was doing so. While I understand that people get tired and/or have headaches, it is incredible rude to put your head down without explaining why you are doing so while a student is with you in office hours. PLEASE OMIT THIS PART WHEN IT IS PASSED ON TO PROF. CIPOLLI AS IT IDENTIFIES WHO I AM: I emailed Prof Cipolli asking questions about a writing assignment after I had asked him questions over email and in person during office hours. I emailed him because I was still having trouble understanding what he was saying. In response he said, "It is important that you read through the instructions – you are missing pieces that are explicitly offered through the prompt. Review the notes that I wrote out on your hard copy – I practically wrote the code for the uniform case, I'm having trouble seeing how you wrote what you did with what I gave you yesterday." (direct quote from his email). For this writing assignment, it was my first time using the statistics software R, and I was having a lot of trouble understanding what to do. I spent several hours trying to figure things out on my own, but was having trouble understanding it. I don't think it is ever appropriate to give a student attitude for not understanding something, especially after I tried really hard to figure it out by myself. This is just one example of how he is

condescending. In class he openly berated a student, without saying their name, for simplifying a fraction incorrectly. The student had done so on a test that they forgot to put their name on. After saying the student was stupid in front of the whole class, he asked if the student could come forward to pick up the test. Who on earth would want to admit it was them who made that mistake after their professor spent forever saying the student was stupid?!

○ Student 22

- **Reason:** Major or minor requirement; Core or Areas of Inquiry (distribution) requirement; Interest in the course material; I was really interested in the subject matter.
- **Effort:** I put a lot of effort into this course.
- **Understanding & Appreciation:** I like how he incorporated real-world relevance
- **Intellectual Growth:** it taught me to think critically.
- **Quality:** I liked his teaching style. The only thing I disagreed with was his grading of the standards.

○ Student 23

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I put a great deal of effort into this course.
- **Understanding & Appreciation:** It did not contribute to my understanding or appreciation for the course. It made me strongly dislike statistics.
- **Intellectual Growth:** It did not.
- **Quality:** Very condescending and arrogant in lectures. Cipolli did not make himself available to students. Not good at explaining material clearly or concisely. Uses convoluted and long-winded sentences in person and over email- as evident by the ridiculous amount long emails we would receive in succession (these emails were often passive aggressive in tone). Doesn't think students want to be challenged (he's said this more than once in response to expressed frustrations with the course). They do. They just want to feel that they are being challenged for the right reasons- that information is being given clearly, that the schedule is kept, that professors are making themselves available, and that jokes aren't being made at their expense. Even when I attended scheduled office hours I felt like I was seen as a nuisance and was given a hard time for being there more than once. One time Cipolli even groaned at me as I walked in the door. Guess what? I have things I'd rather be doing too. Also, I would have fewer questions if his materials didn't have so many typos! I'm a pretty competent person and most of the learning that took place in the course was me teaching myself the material only to get confused by his wrong answer keys. The extra credit assignment, just as every survey he provided was just a tool for him to man-splain why he thought his way was right. This was made clear by the fact that minutes after sending my extra credit assignment critiquing next year's syllabus, before he could have had time to read it fully, I received one of his long-winded messages that

appeared to be pre-written defending his decisions. He didn't actually take any of the criticism we gave to heart. I hope set forms are received differently. Professor Cipolli, I think you'll find Colgate students like to be challenged, but what they don't like is to be treated as lesser than. Respect us, make yourself available, answer questions- don't complain about office hours or make jokes at our expense. Also, know who you are teaching- you say the course is designed for students with varying experience but this was not my experience at all. It felt like you were weeding out non-math people.

○ Student 24

- **Reason:** Elective outside major or minor
- **Effort:** There were quizzes once a week, so it was my job to have an understanding of the material before I came to class everyday. Additionally, doing the extra practice problems he posted helped and the homework assignments that were do every couple weeks were very beneficial.
- **Understanding & Appreciation:** I thought this course did a great job giving me an understanding and appreciation for stats. Stats is extremely relevant in our world around us so to be able to apply some basic knowledge and formulas was extremely important.
- **Intellectual Growth:** I learned to value time management as well as asking for help when I needed it. R was a program he introduced to our class that I was not familiar with and found extremely challenging. Therefore, it was imperative I swallow my pride and make time to see him regularly to ask questions and learn how to use him as a resource/ for help. I also learned time management skills because I had to make sure to put some time aside each night to study the material instead of waiting until the last minute until it all piled up.
- **Quality:** I really enjoyed this Professor, I thought he did a great job entertaining his students and making this course very applicable to our lives. Two thumbs up

○ Student 25

- **Reason:** Major or minor requirement
- **Effort:** I spent a good amount of time and effort reviewing powerpoint slides and looking over worksheets before every standards quiz that effectively helped my grade.
- **Understanding & Appreciation:** I now have a basic understanding of how to analyze statistics and how some statistics are used in my everyday life.
- **Intellectual Growth:** The standards quizzes helped me stay prepared for class regularly prompting me to review my material before other classes as well.
- **Quality:** I felt that I learned a lot from this course and discovered a new way of learning through the standards quizzes. All the required material I felt was well explained and easy to understand under these teaching methods.

○ Student 26

- **Reason:** Interest in the course material
 - **Effort:** I put my best effort into learning the material as best I can in order to achieve the best grade I can.
 - **Understanding & Appreciation:** This course gave me a solid base of understanding to the bottom layer of statistics.
 - **Intellectual Growth:** This course taught me how to learn material in a way that lasts a long time. Instead of cramming the night before, and forgetting the material ten minutes after the assessment, I actually learned the material and gained a knowledge for statistics, thanks to Professor Cipolli.
 - **Quality:** Professor Cipolli had a lot on his hands this semester with a 150 student classroom. He did a great job making a large lecture feel like a small class. He was able to get student participation, and was constantly available for office hours. I had a great experience with Professor Cipolli.
- Student 27
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put in a nightly effort into this course. Whether I was studying for a quiz or completing a homework assignment I was always working on statistics.
 - **Understanding & Appreciation:** I have a greater appreciation for statistics from taking the course. I have a much stronger understanding of statistics and it is interesting to see how often statistics are used in everyday life.
 - **Intellectual Growth:** The course allowed me to think about things from a statistical standpoint. As a sports fan it is very interesting to see how statistics has such an impact on the sports world.
 - **Quality:** I enjoyed Professor Cipolli's class. He is a good Professor who is a fair grader and despite the large amount of students in the class he always got our assignments graded as soon as he could. I think he connects with his students very well and is open for suggestion which I like.
- Student 28
- **Reason:** Elective within major or minor
 - **Effort:** I put a lot of effort into this course. As it is part of my Economics major, I tried with my best effort.
 - **Understanding & Appreciation:** This course helped me make inferences regarding statistics. What was cool about this course was that it was real-world applicable.
 - **Intellectual Growth:** I will be able to use what I learned in this class in the real world.
 - **Quality:** The initial grading system of Professor Cipolli was extremely difficult. His "Standards" quizzes were near impossible to keep up with the course and not fair at all for the students.
- Student 29
- **Reason:** Core or Areas of Inquiry (distribution) requirement; Interest in the course material
 - **Effort:** I put a decent amount of effort into this course, while I certainly spend time completing homework

and practice problems, the amount of work was never overwhelming.

- **Understanding & Appreciation:** As it is an introduction class, I had no prior learning of statistics before taking this class, therefore this class did give me new understanding in the course subject. However, some of the material was somewhat dry and therefore didn't really lead me to appreciate the subject.
 - **Intellectual Growth:** Being in a lecture-style class, I was required to listen in class and often also attempt to understand new concepts outside of class. I think this contributed to my own overall intellectual growth.
 - **Quality:** I thought Professor Cipolli was a good professor, especially since teaching such a large lecture must be difficult and at times frustrating. I thought the concept of standards to be somewhat confusing, and preferred the way in which he gave us once-a-week quizzes towards the end of the semester. I also wish he had either stuck to teaching through power points or simply on the blackboard, as the combination of the two led me to sometimes be confused when reading the powerpoints individually.
- o Student 30
- **Reason:** Major or minor requirement
 - **Effort:** Above average
 - **Understanding & Appreciation:** Math skills got better
 - **Intellectual Growth:** Realized some teachers grade unfairly
 - **Quality:** Decent teaching. Grading style is out of whack though
- o Student 31
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put so much effort into this class! I was constantly looking over my notes and going back through power points. I always did the hw and practice sheets. I had to basically teach myself EVERYTHING because his lectures were so confusing and unhelpful. I had to put in way more effort than I needed to because he was such a bad teacher. I went to office hours a lot to ask him questions and to go over questions I got wrong. I always got the impression that I was bothering him when I asked him questions because he always rushed me and made me feel small.
 - **Understanding & Appreciation:** I feel as though the course itself didn't help me at all because I did most of my learning on my own time. I learned more about stat concepts that I will actually need to use in my research methods class for psych. Overall, a lot of unnecessary stress for a class that wasn't that helpful.
 - **Intellectual Growth:** This class was absolutely infuriating because unless you are some wizard who never makes mistakes you can not do well. Also, if you aren't one of his favorites he will not respect you. This course contributed to my intellectual growth in that it had made me really cynical regarding the motivations of my professors and had really butchered my confidence.
 - **Quality:** I hate professor Cipolli. I think he is cocky and condescending. He always claims that he has our

best interest in mind, but then does nothing to show it. He is SO unwilling to listen to us and would always make us feel bad for being stressed out. He belittled us CONSTANTLY and then blamed us for feeling belittled. I think he is a very smart guy who know a lot about stats, which is great, but he taught us as if we were supposed to know everything already. He often made really demeaning jokes to our class and would taunt us for feeling uncomfortable speaking up. He told us to email him about concerns or to talk about how things could be different in the class, but he would then put these responses on the board so that he could rip them apart in front of everybody. When things like this were brought to his attention he had tons of excuses prepared. He is filled with excuses and claims that he knows better than all of us. I think it is really telling when an entire 150 class is stressed and are encouraged to talk to their professor about it but are then very harshly shut down. I don't feel respected by this man and I don't feel like he wanted me to succeed. I acknowledge that he gave us extra credit, believes his standards system works, answered questions in class, and even gave us surveys to comment on his teaching. All of these things were great! It's his responses to all of these things that made me feel so uncomfortable in class. He felt as though since he did all of these things that we should be kissing his feet for being so generous. I never felt good about the "nice" things he did for us because they were followed by him mocking us and making us feel guilty for being overwhelmed. Based on his syllabus for next year it is clear to me that he knows he was unorganized and unfair yet he would NEVER admit that in class because apparently everything is our fault. I would absolutely never recommend that anyone take a class with him. I think he is a mean person who is totally unwilling to accept the opinions of other people. I talked to my therapist about him constantly. A student should never have to feel this way about a professor.

o Student 32

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** At the beginning of the semester Professor Cipolli gave pop quizzes frequently, so I spent a half hour a day reviewing the course material. After Professor Cipolli promised to only give quizzes on Wednesdays, I stopped studying every night and focused only on studying a few days before the quiz. I actually started improving my quiz grades and understood the material better because I wasn't anxious about the possibility of a pop quiz.
- **Understanding & Appreciation:** Professor Cipolli pulled all of our statistic problems from real world situations, so it was easy to see how statistics applies in the real world. However, even after taking this course I don't know how often I'll use the knowledge I now have in my everyday life. I was expecting this class to help me get more from reading scientific articles/essays, but it hasn't.
- **Intellectual Growth:** The writing assignments Professor Cipolli assigns made me appreciate statistics more than anything else in the course. I really enjoyed writing about superiority illusion, and I'm glad I now have

the skillset to write a paper in a scientific format.

- **Quality:** Professor Cipolli is really great at explaining questions on the board and replying to students questions in class and via email. He could improve at handling criticism. He sends out surveys throughout the semester to check in on students and see how they're learning and how the class can improve. He made significant changes to the course for the benefit of students, i.e. quizzes are weekly rather than spontaneous. However, if someone sent an email he disagreed with, he would mock said email in class (omitting the students name of course). I'm sure he received a lot of obnoxious emails, but it's never appropriate to caustically deal with a student's legitimate concerns in front of others.
- o Student 33
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I attended office hours and tutoring consistently. I also used outside resources like Khan Academy for further assistance in helping understand the material being learned and for extra practice.
 - **Understanding & Appreciation:** I have never taken a statistics class before this one, neither in middle or high school. This class was definitely a challenge but it helped me appreciate solving real world problems using statistics. I, at first disliked the class, it seemed too difficult for me. I felt way behind compared to other students, but attending office hours and tutoring helped greatly.
 - **Intellectual Growth:** I learned how to statistically analyze data and how to solve problems I thought were too difficult for me to solve.
 - **Quality:** Weaknesses were not getting the class to participate much or show up. There was one instance where groups were made to work on a standard, which is when we were learning about probability. Besides that, no one really participated besides just 3-5 people. In regards to students not showing up, I believe there could have been a way to ensure everyone attended class. On days there were not any quizzes a good amount of students did not even bother showing up to class – which is problematic because they the ones who are falling behind with the material and result in tons of people showing up to one office hours meeting.
- o Student 34
 - **Reason:** Major or minor requirement
 - **Effort:** Did a pretty decent amount of studying
 - **Understanding & Appreciation:** Learned a good amount about statistics
 - **Intellectual Growth:** Lots of real world statistics problems that I found interesting
 - **Quality:** Really good overall, satisfied
- o Student 35
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** A good amount

- **Understanding & Appreciation:** It did not, I hated math before I hate it still now
- **Intellectual Growth:** N/A
- **Quality:** He is a great guy and tries his best to create the best course for the students at Colgate. It is difficult when dealing with students who hate math and aren't good at it to make a course they would like (like me). But he is a great guy and was always available through email and extensive office hours.
- Student 36
 - **Reason:** Major or minor requirement
 - **Effort:** I put a lot of effort into this course. However, Professor's availability and ability to explain concepts well allowed my efforts to show great results.
 - **Understanding & Appreciation:** I have gained a much better understanding of the world of statistics and I have come to appreciate how helpful it can be.
 - **Intellectual Growth:** I learned that statistics are everywhere and understanding these statistics can lead to a better understanding of many different topics.
 - **Quality:** I think there was a very high quality of teaching in this course. Professor Cipolli would go out of his way to make sure that students understood topics and constantly encouraged participation. He was very accessible as he held office hours much more frequently than what was required of him and he was always reachable by email. He sincerely cared about the performance and happiness of his students and I would be happy to take another one of his classes.
- Student 37
 - **Reason:** Exploration of possible major or minor
 - **Effort:** I had previously taking the class in high school, so not too much
 - **Understanding & Appreciation:** I gained a deeper understanding of statistics, and how to analyze stats in the real world
 - **Intellectual Growth:** I was able to manage my time wisely when it came to the homework, and the writing assignment was helpful for conducting a scientific experiment.
 - **Quality:** Cipolli was a good professor, there were some confusing aspects of the grading system, but other than that I found the course to be very straightforward and informative.
- Student 38
 - **Reason:** Other requirement
 - **Effort:** A good amount of effort on the problem sets and studying on a weekly basis.
 - **Understanding & Appreciation:** It helped my develop knowledge in statistic and be able to better understand how to interpret statistics.
 - **Intellectual Growth:** Well this course has helped teach me to always continually study, because things are

cumulative, and you never know when you will need to know something you previously learned.

- **Quality:** The professor is very knowledgeable and made class as interesting as he could given the subject, but he needs to work on his one on one skills. I went to his office for help and he was very rude and condescending when I didn't understand one thing. The whole point in me going to his office hours was to learn the thing I didn't know, but he made that difficult and made me feel like an idiot.
- Student 39
 - **Reason:** Major or minor requirement
 - **Effort:** I didn't put in a lot of effort in the beginning and really struggled. Now that I got my act together I am doing much better.
 - **Understanding & Appreciation:** I appreciate the practical applications of statistics in society. Professor Cipolli placed an emphasis on practicality and it helped me enjoy the class much more.
 - **Intellectual Growth:** It made me realize that I needed to focus on each little intricate step of my learning and not take any days off. I appreciate statistics as a form of math and think it is going to be a big area of study for what is to come in this world.
 - **Quality:** Professor Cipolli made an effort that was above and beyond to reach out to his students, coming from a student that slacked off for the most part and wishes he could have been more diligent with his work. He is a great teacher and challenges you to be better every day.
- Student 40
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** Online homework, quizzes, and practice sheets
 - **Understanding & Appreciation:** I did not learn much about the topic of statistics from this course.
 - **Intellectual Growth:** It showed me how to think critically about the certain topics that included probability and stats?
 - **Quality:** This instructor seemed completely unphased and brought up no concern for the welfare of students after the incident of Sunday, April 30 that portrayed complete racial profiling and biases from the university. No extensions or thoughts were given in support of the very few students of color in this large stats class of 150.
- Student 41
 - **Reason:** Major or minor requirement
 - **Effort:** I put a lot of effort into this course. In the beginning of the semester when we had pop quizzes, you always had to be on top of the material every day. Towards the end, when we did bigger cumulative quizzes every week, I had to put a lot of time and effort into studying all the material. It took a lot of time because you had to make sure you understood all of the material.

- **Understanding & Appreciation:** This course didn't really contribute to my appreciation of the course subject. I took this course because it is a requirement for Economics major. Obviously, I am grateful that I took this course because I know that I will need a basic understanding of Stats in the future.
- **Intellectual Growth:** I think that along the way, I will have to use Statistics in future classes or careers. Stats gives you a base of the mathematical aspect of business and allows me to be a more dynamic student.
- **Quality:** I think that, for the class size, Professor Cipolli did a good job. I think that maybe in the future, Colgate should consider making Intro to Stats a smaller sized class, for it is really hard to have math classes be lectures. I don't think Professor Cipolli is to blame, but I think class was often hard to pay attention in because math problems were presented through power point slides. I think this hinders learning because we weren't really able to work through / fully understand concepts. I also think the standards situation, specifically not taking the students best score, is kind of absurd. It shows that Professor Cipolli doesn't really truly care about the success of his students, for if he did he would allow students to take the best score. I understand the reasoning behind not, but maybe at the end of the course he should take the best score (so don't tell students you are taking the best score until after all the standards).
- o Student 42
 - **Reason:** Major or minor requirement
 - **Effort:** I finished homework and practice problems in time and utilized them as reviewing materials. I reached out to the instructor when I needed help.
- o Student 43
 - **Reason:** Interest in the course material
 - **Effort:** I would think this class was the most challenging class that I took for this semester.
 - **Understanding & Appreciation:** I learned about many concepts such as the Central Limit Theorem.
 - **Intellectual Growth:** I was able to take a math course even though I was busy with other assignments and commitments.
 - **Quality:** As I a student I felt that I could connect with this professor more than others. He is younger and understands where many students are coming from which is important.
- o Student 44
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** Did homework, came to class, took the quizzes and studied for the tests. I put an above amount of effort into the course considering it is a 100 level.
 - **Understanding & Appreciation:** I know more about stats and its applications in the real world.
 - **Intellectual Growth:** I know how stats is applied in the real world, for example in election polling data.
 - **Quality:** He was ok. Professor Cipolli clearly cares about the students and definitely cares a lot about

statistics. I think he came on a little too strong in the beginning of the semester, he can be sarcastic as well. Towards the end of the semester he got better at teaching/communicating in general. I do not think the class was all that bad, but the tone at the beginning of the semester, specifically in terms of the standards and confusion surrounding their grading, caused panic and a lot of disgruntlement among the students. Also for a lot of the subjects I had to go into tutoring or have one of my statistically inclined friends explain the topic to me because the powerpoints were overly complicated for such simple topics. With that being said, I definitely know more about statistics now than I did in the beginning of the semester. Also, the syllabus for next semester is much improved and more clear. I think next semester will go a lot more smoothly in terms of students liking the course and learning the material.

○ Student 45

- **Reason:** Major or minor requirement
- **Effort:** I put a great deal of effort into this course, including everything from the homework to the practice problems. I think the professor did a great job in giving us materials to work with that allowed you to do well in class, as long as you put the effort in.
- **Understanding & Appreciation:** This course gave me a thorough introduction to statistics and it was all taught in a way that was easy to understand and hence made it even easier to get a good grasp of the subject
- **Intellectual Growth:** I think this course helped me to think more critically in classes such as these and make me understand that you have to put effort in to do well.
- **Quality:** I believe that this professor was one of the most admirable that I have ever had. It is not easy to teach a class of 150 students, and I believe this professor did it in a way that was effective, meaningful, and truly showed his desire for us to learn. I believe he did an amazing job when it came to giving us material to prepare for upcoming assignments, as well as making sure that he was available and accessible when we needed him. I understand that his course may be very different than some others, but he truly encouraged me to put effort into this class and work towards learning, rather than just a grade. Honestly, I would not have changed one thing about how he taught each topic in this class, and although many other students may have felt this class had unfair grading procedures and whatever else, I believe that this professor really helped everyone learn.

○ Student 46

- **Reason:** Exploration of possible major or minor; Core or Areas of Inquiry (distribution) requirement
- **Effort:** I had to put a lot of effort into this course, more so than my other classes this semester, just to fulfill a prerequisite. I had to be prepared to study for a pop quiz for every single class period on any part of the material in the course.

- **Understanding & Appreciation:** This course did not really contribute to my appreciation of the course subject as I only took it in order to fulfill requirements. I did not enjoy taking this course. My understanding has increased as I do believe I learned. However, I believe that the way in which we were graded (pop quizzes once or twice per week) did not help my understanding in the long run. I felt that I had to just memorize material in a certain amount of time for a potential graded exam, rather than gain a real understanding of material.
 - **Intellectual Growth:** This course helped me in terms of time management and planning out a workload over a broad amount of time. It was my first every experience in a course larger than 30-40 students, so it helped me in terms of really learning the material on my own.
 - **Quality:** The professor often was often careless in a lot of instructions on exams or assignments, with many issues in explaining what he wanted. I felt that the vast majority of the material was left for me to learn on my own outside of class (not in a good way). I did not feel like I got very much out of the lectures. This course really needs to be taught in smaller sections, rather than one 150+ student lecture. The professor's guidelines for grading were never clear throughout the entire semester, as students were still asking him about how he graded the standard quizzes even in the last week of classes. The professor was much more effective in conveying material in a smaller setting (i.e. office hours) than in the large lecture.
- o Student 47
- **Reason:** Major or minor requirement
 - **Effort:** I put a considerable amount of effort into this course. I reviewed class material frequently and completed practice problems before quizzes and the midterm. I also spent one week working on our writing assignment. In addition, I went to office hours about 4 or 5 times throughout the semester if I had questions that I felt couldn't be answered by my peers.
 - **Understanding & Appreciation:** I needed to take stat as a pre-req for another class. I'm disappointed because I felt like we spent a lot of time on probability and definitions of different types of experiments. While spending extra time on these subjects was helpful at the time, I feel like I might be unprepared for the other courses I want to take. We did not learn chi squared tests and we skipped another chapter. While I appreciate spending extra time on probability because it was something I struggled with, I wish we had spent less time on experimental design and definitions.
 - **Intellectual Growth:** I think statistics are useful in almost every subject. I do think that the concepts I learned in this class will help me in other academic areas as well as increase my understanding of current events.
 - **Quality:** I think Professor Cipolli puts a lot of effort into this course. We did not like taking quizzes with i-clickers so now we get to take hand-written quizzes. While this is easier for students, it makes grading

more time consuming for the professor. I do think this change was beneficial though. He also tries to make class interesting with the examples he uses. My biggest issue with class, and I feel many other students will voice the same opinion, was standards. In the beginning, standards were pop quizzes that could be on any subject matter we had learned in the semester. I think pop quizzes just do not work in a class this size. It's difficult to know where students actually are at with the concepts we learn in class. Homework grades are not indicative of our understanding, as a lot of the homework problems were multiple choice and I will admit I guessed on a lot of them when I was too lazy to learn the material. He changed them to announced quizzes where we still would not know what material would be on them. My biggest problem with standards (which prof Cipolli has already heard) is that he would take our most recent grade rather than our best grade. I found it unfair that a short quiz could change your grade so dramatically if you made a silly mistake (grade drops from 100 to 89 if you get one standard below 100). He claims we did not need to review all material ever night, but there really is not other way to guarantee yourself a 4 on every standard unless you do this.

○ Student 48

- **Reason:** Major or minor requirement
- **Effort:** I put a great deal of effort into this course as I studied before every class in case of possible pop quizzes. I made sure to complete the assigned homework problems as well.
- **Understanding & Appreciation:** I have gained great understanding from constantly studying and reviewing which you are forced to do because of the pop quiz system.
- **Intellectual Growth:** This course has taught me the value of consistently learning rather than cramming.
- **Quality:** I feel like the teaching is of a very high quality and that good grades in the course are achievable if you put in the work.

○ Student 49

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I put significant effort into this class by reviewing class notes and doing practice problems before class (usually in preparation for standard quizzes).
- **Understanding & Appreciation:** Not only did I learn the material, but from the first day Professor Cipolli made a clear effort to relate the material to relevant issues. As an International Relations major this course has been helpful in my other classes, particularly political science classes that often use statistics and polls in elections and public opinion.
- **Intellectual Growth:** I have pretty much all avoided math classes in my 3 years here. Statistics is a particularly useful topic, but overall I think it was a beneficial course in that I had to think differently than my other courses.
- **Quality:** Professor Cipolli has put more energy and effort into ensuring that his course can be the best

version for his students than probably any professor I've had at Colgate. He holds office hours pretty much all the time, constantly asks for feedback to improve his current and future course, and responds to student emails constantly. Large lectures such as this are uncommon at Colgate and I think they can be difficult; I know that I tend to learn better in smaller classes. I can imagine Professor Cipolli is particularly good at teaching in smaller classes. That being said his lectures were great and he always included funny and relevant examples. From what I've heard and expected prior to taking the course, students tend to take statistics as an easy A. Professor Cipolli really wants his students to understand the material and does not want this class to be an easy A, but rather makes students put in the work. I can imagine some students were frustrated by this, but I rarely learn a lot from my easy A classes.

○ Student 50

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I made sure to attend class as well as do the homework assignments on time as well as the worksheets for each chapter.
- **Understanding & Appreciation:** This course made me have to use my math skills more conceptually than I have in the past.
- **Intellectual Growth:** This course caused me to take more time out of my schedule to sit down and do practice problems.
- **Quality:** Although I do believe that Professor Cipolli has the best interest of the student one thing that I was frustrating was his many lack of errors and careless mistakes on worksheet packets as well as his powerpoints.

○ Student 51

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** There was homework for every chapter that I had to learn to do, and a quiz every week that could be on literally anything we had learned, so I had to go back and study things that were covered months before.
- **Understanding & Appreciation:** I understand how to use several formulas, but I do not know their context.
- **Intellectual Growth:** I can understand how statistics are used in the news and advertising.
- **Quality:** Professor Cipolli was not very effective at teaching in class. In order to study for a quiz or do homework, I had to go back to his powerpoints and teach myself the material. Some of his policies disincentivized students from attending class at sometimes, and once he announced which days the quizzes would be, many students I know decided that it was not worth coming to class at all because they would have to learn it later anyway. He asked us to use R for some assignments, and no one in the class had any idea what it was, much less how to use it. He was willing to adapt and learn, but often that only meant making the class easier rather than more clear and understandable.

○ Student 52

- **Reason:** Core or Areas of Inquiry (distribution) requirement; I am a senior and thought I had completed my NASC/MATH requirements because had already taken three natural sciences, but did not know that they couldn't be in the same discipline. So, one didn't count, and I needed to make up for it with a math class.
 - **Effort:** I showed up to almost every class period and completed all homework. I studied for over an hour for each quiz.
 - **Understanding & Appreciation:** I had never taken a statistics class before, so I now can appreciate the way it applies to so many societal issues.
 - **Intellectual Growth:** I learned the ways that statistics applies to other subjects, and the course certainly helped improve my analytical skills.
 - **Quality:** Professor Cipolli was very available to answer questions over email. He also was open to all questions in class. Where Professor Cipolli could stand to improve is during his general tone towards his students. For example, announcing how poorly everyone did on a recent "standard quiz," followed by "I don't know what is going on; up until now this has literally only been low high school level math" is not helpful or productive, in fact, it is rather condescending (whether intentional or not). Furthermore, though I can appreciate that the concept behind the "Standards Quiz" system is to force cumulative learning, I found it quite unfair that if you did worse on a standard later in the semester than you did well on earlier, your better score gets replaced by your worse one. I understand the logic, but I didn't find it effective. Additionally, the fact that each Standard Quiz was technically cumulative made it feel like you had to study all the material from the entire course before each one. Perhaps for someone more naturally mathematical with a very good memory, this wasn't a problem. For me, it was. In general, I found the grading system very confusing. I tried so hard in this class and had a terrible average on "pearson" the entire time- yet I had multiple friends who had grades 10/20/30 points higher than me who literally missed multiple quizzes and barely attended class. I did not understand the grading system at all. I am a senior, and felt like I was on the cusp of failing and therefore not graduating because of it the entire semester, despite working extremely hard in this course.
- o Student 53
 - **Reason:** Major or minor requirement
 - **Effort:** Throughout this course, I completed all recommended readings even in cases where they were not essential to our comprehension of the subject matter. All homework was done with dedication, accuracy and to the best of my ability overall. When studying for exams, I contributed a great deal of time and effort into my understanding, worked with classmates and ensured that I had a firm grasp of all required concepts. Office hours were not all that frequent for me, primarily in cases when I picked up papers and quizzes or had a very specific question.
 - **Understanding & Appreciation:** I enjoyed any real world applications that Professor Cipolli was able to

bring to the table, and in these cases was able to earn a greater appreciation for the impact statistics has on factors in the economy, politics and other social complexities in areas across the United States.

- **Intellectual Growth:** Given the intensified course load for the end of the semester, I can reflect on this class as a means for me to amplify my learning on topics that I had known little about prior to taking statistics – such as coding. Whereas this wasn't relevant in many cases throughout the semester, I found that it can be a great resource and contributes to my learning in other avenues outside of the class.
 - **Quality:** I am a big fan of Professor Cipolli, as he has a highly prepared, enjoyable and well-humored way of going about his teaching of this course. Each step of the way we were engaged by methods of connecting topics to the real world and using examples to explain dense material. Unfortunately we spent a great deal of time attempting to communicate standards for grading in the course, but I believe in the syllabus Professor Cipolli has created for next semester that he has corrected the issues originally voiced by the students.
- o Student 54
- **Reason:** Exploration of possible major or minor
 - **Effort:** I took AP stats last year so I felt as though I would feel somewhat prepared for the new material, however I found this class to be challenging and I had to put a lot more effort in than I thought I would. Even though this is not a bad thing, I found it difficult to do well even though I already had previous knowledge of the material.
 - **Understanding & Appreciation:** My appreciation for statistics somewhat decreased as it was fairly high in high school, but the way we went about learning the material was confusing and frustrating
 - **Intellectual Growth:** My intellectual growth was stimulated and this challenging course improved my work ethic because I had to work hard and keep up with the material on a daily basis
 - **Quality:** I think considering the class size and since Cipolli was new to teaching, he did a fairly good job trying to figure out how to best serve the class. I think students were frustrated because this course required them to really pay attention and come to class every day, which they should be doing so it's not fair to blame this on the professor. One weakness I think was the confusion I felt during class when learning when I came to every class and tried to pay attention. I felt lost numerous times. I was able to do well but it was because I had to teach myself a lot of the material on my own. Strengths come in the fact that Cipolli was extremely funny, nice and the effort he put into this class was evident
- o Student 55
- **Reason:** Other requirement
 - **Effort:** Several hours a week spent studying for standards or doing homework
 - **Understanding & Appreciation:** I now have a much better understanding of statistical calculations and methods

- **Intellectual Growth:** This course will help me in understanding polling and sampling in many of my other science courses
- **Quality:** The professor was always available to help and had very clear standards for class
- Student 56
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I have put a lot of effort into this class. I work a lot on long homework assignments, I go to his office hours when confused, and I study a lot for regular (often pop) quizzes we have had in this class.
 - **Understanding & Appreciation:** I am definitely a math person so this course has enhanced my appreciation for math in general and more specifically, statistics.
 - **Intellectual Growth:** I think i have grown as a student in my independence and perseverance in trying to get through tricky academic situations on my own. I have been forced to step out of my comfort zone, specifically by using computer programming (R studio).
 - **Quality:** I think my opinion for the teaching of this course varies from day to day. Some days, Professor is extremely helpful and approachable, and other days not as much. I enjoy his humor but I can see how some people begin to take it personally. I do not think of him as a bad professor and I have enjoyed this course, but some of his syllabus decisions are confusing and often your questions are dismissed.
- Student 57
 - **Reason:** Major or minor requirement
 - **Effort:** Due to the nature of the course (ie. timely homework assignments), I had to expend little effort in preparation for quizzes/exams because I found material to be highly cumulative.
 - **Understanding & Appreciation:** I have a solid basis knowledge regarding statistical concepts that I have already begun to see implemented in my Microeconomics course.
 - **Intellectual Growth:** Professor Cipolli based a majority of the class around real-life polls and data, allowing for me to see the true reasoning behind why we were learning a topic.
 - **Quality:** Professor Cipolli is one of the most genuine professors I have met at Colgate, and I feel this reflects in his course structure. He allows ample opportunities to recover from less than stellar grades and is always available to help despite having 150+ students in the class. He was constantly polling the class regarding preferences on quiz formatting, office hours, and many other components so that he could tailor the class to suit the overall class's needs in the most efficient way possible. I truly enjoyed my experience in his class, and would enroll in another taught by him.
- Student 58
 - **Reason:** Major or minor requirement

- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put a decent amount of effort in. I found that tests and quizzes had me studying quite a lot.
 - **Understanding & Appreciation:** I gained an appreciation for the course subject due to its practicality in the real world.
 - **Intellectual Growth:** It increased my critical thinking.
 - **Quality:** I think that the professor was extremely accessible and open to contribution from the class on a lot of aspects such as quiz dates and practice problem assistance, which was great.
- Student 59
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** This class required a lot of effort in terms of everyday preparation. Initially, the class was structured through giving pop quizzes twice a week. What that meant was that we constantly had to be reviewing out material for the possibility of a quiz. This turned out to be frustrating because of the amount of time necessary that had to also be used towards other classes. Homeworks were manageable, and a switch to tests every Wednesday helped plan out studying, but overall the class was very time consuming and unpredictable.
 - **Understanding & Appreciation:** I had never taken a Stats class before, therefore, I was able to learn about the importance and prevalence of stats in every day life.
 - **Intellectual Growth:** Stats is extremely important to learn about biases within different polls and charts and data provided by the media for example. It makes me think critically about the actual source of information and particular motives they have about presenting data.
 - **Quality:** Professor Cipolli did what he could for a class of over 150 students which has to be difficult, especially since students at Colgate are used to small classes and direct engagement with their teachers. His power points and practice problems were useful, but I found myself teaching the material to myself outside of class. So I had the resources, but didn't feel adequately taught in class. He, however, did set is up for success I believe as long as we put in the effort.
- Student 60
- **Reason:** Other requirement Additional Reason(s): Pre-med/ graduate school requirement
 - **Effort:** I have put some effort into this course and have enjoyed some of the material I think the beginning of the semester was very rough for my understanding of the material
 - **Understanding & Appreciation:** I think stats is interesting when we are actually analyzing real data. I hate the probability unit and still don't understand it.
 - **Intellectual Growth:** I think it has helped me in some other classes that use statistics to understand where formulas are coming from.
 - **Quality:** I think Professor Cipolli is a good professor and he genuinely wants students to learn, but he does

seem to put students down sometimes when he is frustrated and doesn't seem to see that the majority of this class are students that are not going to be math majors or are even good at math.

○ Student 61

- **Reason:** Major or minor requirement
- **Effort:** I put in the necessary effort to do well in this class. I would pay attention in class, do the homework, and study well for the tests.
- **Understanding & Appreciation:** I have a better understanding of the basic ideas behind statistics. I am able to better appreciate how much stats is a part of day to day life.
- **Intellectual Growth:** I had to learn to study and look over my notes consistently because of the constant chance for a pop quiz. Since this was such a big class I learned to be more independent with my studies and make sure to reach out for help, either from the teacher or classmates, when needed.
- **Quality:** I think the professor is clearly very smart and knows a lot about what he was teaching us. He was always open to critique from the students on how he did his teaching. His standards for the class were confusing at the beginning of the semester but it got easier to understand what he wanted from us once the semester went on.

○ Student 62

- **Reason:** Major or minor requirement
- **Effort:** I did the homeworks and took the tests.
- **Understanding & Appreciation:** It didn't.
- **Intellectual Growth:** It wasn't.
- **Quality:** Made me pay \$105 for an online homework subscription then \$50 for an iclicker that was barely used and a textbook that was never needed. Seemed like a good guy who is organized and motivated, but grading was unclear and made the course much harder and more confusing than it had to be. I wouldn't be as upset if I still had the over \$150 in my pocket, and there were no standards quizzes or quizzes with better grading.

○ Student 63

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I worked to complete the homework assignments and be prepared for the quizzes.
- **Understanding & Appreciation:** Statistics is an important discipline, but this course really did not make me feel that way. The course really did not help me to appreciate the subject matter.
- **Intellectual Growth:** The instructor was good at relating statistics concepts to the outside world.
- **Quality:** The quality of teaching was fine, though it seemed class members were frustrated with the instructor during every class. I don't think we accomplished as much as we could have, and a lot of the work was tedious, but he certainly cares about his students and tries for us, so that is noted.

- Student 64
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** decent
 - **Understanding & Appreciation:** it made me think in a way that i wasn't used to.
 - **Intellectual Growth:** numbers tell a lot more about society than i previously thought.
 - **Quality:** quality of teaching was good.
- Student 65
 - **Reason:** Major or minor requirement
 - **Effort:** I put a good amount of effort into this course, with weekly or daily quizzes and really long hw assignments it took up a lot of my academics.
 - **Understanding & Appreciation:** I am not a very big math person so it did not make me appreciate stats. However, it was sometimes cool to read some of the statistics out there and know how to get those answers.
 - **Intellectual Growth:** This course challenged me to learn stuff outside the classroom and teach myself skills. A lecture hall of 150 students does not play to my strengths and I was not able to learn well during class.
 - **Quality:** Professor Cipolli was an interesting teacher, Occasionally very unfair and rude to his students but also listened to criticism well and tried to change that. He taught a 150 person class which must be hard but he went very fast sometimes and it was hard to understand.
- Student 66
 - **Reason:** Major or minor requirement; Elective within major or minor; Interest in the course material
 - **Effort:** 6/10. Slightly more effort than the average collegiate course
 - **Understanding & Appreciation:** In all honestly I barney even gained the least bit of statistical knowlandge. We mostly worked off common sense
 - **Intellectual Growth:** It added some aspect of critical thinking, but nothing I could not have gotten from a different mathematics class.
 - **Quality:** Poor!! I like Cipolli as a person, he seems like a really nice guy. I really hated the way this class was taught though. From the power points to the clicker questions to th Pearson homework i HATED this class. probably my least favorite class i've taken, definitely the worst class I have taken for my major. I would give this class an honest 2.9/10.
- Student 67
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** Outside of class I put a good amount of effort into learning the course material. I learn better in smaller classroom settings, and because this class was so large, I felt it hard to focus and thus would reteach

myself material after class.

- **Understanding & Appreciation:** Professor Cipolli did a good job explaining the material and was very organized. I think questions and examples are one of the best ways to learn this specific subject material, but again, in such a large group such as this class, most students did not feel comfortable asking questions, and I think that may have hindered everyone's learning.
 - **Intellectual Growth:** This course has taught me how to teach myself things out of the classroom, and also how to be a more organized and driven student.
 - **Quality:** Professor Cipolli has very good intentions and is very organized and detail oriented. He gave us "standard" quizzes which were random pop quizzes on the subject matter which most students complained about, but I thought these were effective because they forced students to be keeping up with course material. Sometimes he can be unclear as to what he wants, such as when he assigned writing assignments in which the rubric was very vague and thus most people got a bad grade because no one knew exactly what he wanted. He also made us use the program R, which is a coding program used to generate statistics and graphs. I think this is a useful tool for the course, however, we never got any direct instruction from Professor Cipolli on how to use it, and he would get very fed up when people would come to office hours asking him to explain R. I think if he wants to use this program, he needs to dedicate at least 2 classes to learning how to do it because although it is not coding and computer science directly, it is very close and is something many students just have no idea how to go about. He posted a sheet on R with explanations, but I have read that over multiple times and was still very confused.
- o Student 68
- **Reason:** Other requirement
 - **Effort:** I went to office hours where I had to wait 20 minutes to ask a question and then felt patronized once I actually got to speak to the professor. I always completed the homework assignments on time with the formula sheets, using "view an example" and my class notes. I would work on the worksheets he would hand out in class and review the solutions of the past standards. My own effort is the only reason I was able to pass this course. This was a class where everyone had to go home and reteach themselves.
 - **Understanding & Appreciation:** It didn't.
 - **Intellectual Growth:** It showed me how important reviewing and relearning material is in a math class. Nothing beyond that!
 - **Quality:** I am so disappointed with the way this professor thinks he can treat students. He's young so I guess he compares us to how he remembers himself just a few years ago, but it is completely uncalled for. He thinks he is being funny, but he is always just condescending and rude. His emails are insensitive and I often heard people complain about how uncomfortable they were with him as a professor. I did not appreciate

the quality of teaching at all and would never recommend taking a course with this professor to any other student on this campus.

○ Student 69

- **Reason:** Elective outside major or minor; Interest in the course material
- **Effort:** I put more effort into the course than I was expecting. However, my expectations were that this would be something I could just skate through, and it wasn't that at all. The effort required to do well was no more than for many other courses. I expect many of the negative reviews that come in concerning this course are due to the lack of effort students put into the course, which confused them and has caused them to have a far more negative experience of the course than what Professor Cipolli provided for those students who actually put in the requisite effort.
- **Understanding & Appreciation:** I know a lot more about statistics, methodological applications, and interpreting results of statistical analyses when coming across them
- **Intellectual Growth:** Very little, but this is to be expected from a 100 level course with over 150 students in it. However, there were clear attempts by Prof. Cipolli to connect the course material and our problems to events throughout the contemporary world, which was quite beneficial in being able to visualize statistics within the broader complex world we all live in today.
- **Quality:** The teaching was on the whole, in my opinion, very good. Professor Cipolli tried to present a relaxed attitude towards the course that i could imagine coming across as aloofness. However, on the balance of things, he was approachable in office hours (which were offered far more frequently than what the university expects) and very much did care for his students. The difference between preconceived expectations and our actual experience in the course I believe has muddied the experiences of many of my peers—however, Professor Cipolli was clear with his expectations, gave plenty of time to ask questions in a number of different forums, allowed adequate time for homework while providing extra practice problems for students, and spent many lectures going over the material until students demonstrated a base level of mastery. Though I don't quite understand the grading schema at this point entirely, I do think that it has been quite fair and accurately reflects the effort and time students were willing to put into the course. It is not harsh at all, and if a student has drive to do well, then Professor Cipolli allows students to get there. Unfortunately, for one reason or another Intro to Statistics has gained a reputation among the student body that attracts students who have no drive for this particular material and are looking to just skate by, which has likely clouded their experiences in the course.

○ Student 70

- **Reason:** Other requirement
- **Effort:** I put a tremendous amount of time and effort into this course. I went to office hours, tutoring hours,

and devoted ample time to homework and quiz preparation.

- **Understanding & Appreciation:** I realized statistics is very practical in everyday life.
 - **Intellectual Growth:** I learned how to handle difficult subject matters by asking for outside help.
 - **Quality:** The structure of the course did not allow me to benefit from learning stats. The class was heavily focused on clicker quizzes the first half of the semester that caused tremendous anxiety for myself and many classmates, as they constituted a large part of our grade. Additionally, the size of the class allowed Professor Cipolli to only use power points as a guide, which often is not the best way of learning for many students. Professor Cipolli answered questions well if asked but other times would be sarcastic in his responses, making some students hesitant to ask questions in class. I think Professor Cipolli is a good professor and really does want his students to learn; however, I think many students are not accustomed to this type of class and course structure in which complex material is quizzed regularly when concepts may not be fully understood. I know Professor Cipolli hopes to make change for next semester and I am confident these changes will benefit future students.
- Student 71
- **Reason:** Core or Areas of Inquiry (distribution) requirement; Interest in the course material
 - **Effort:** I would argue that I put a high amount of effort into this course, including attending every class, paying attention in class, going to office hours frequently, doing all the homework ahead of time, doing all the practice problems, and studying the material outside of class.
 - **Understanding & Appreciation:** I had vowed never to take another math course after honors calc in high school, but I am really glad I took stats. It showed me a much more useful and fun side of mathematics., and gave me a very useful knowledge of the subject.
 - **Intellectual Growth:** It really helped me to think more precisely and numerically about data, science, and society, especially since I tend to think more generally and abstractly. Looking ahead, I am confident that stats will help me in my research and career.
 - **Quality:** While some students may be disgruntled with Professor Cipolli's pedagogy and personality, I believe that there is abundant evidence (with 99% confidence) which indicates the highlights of Professor Cipolli's teaching and character. Professor Cipolli was remarkably humorous, friendly, and knowledgeable. All of his lectures were easy to understand, if you put in sufficient effort. He was also extremely receptive to feedback, asking 4-5 times throughout the semester for students to fill out a survey about the course and about his teaching. He was very open to questions inside of class, and made the class fun and interactive with the clicker and other online resources. The moodle page was meticulously maintained, and he made a stellar effort to ensure we were prepared for tests and projects. During office hours, he was generally helpful, but the R code was very confusing. Since there were 158 students in the class, the time spent in office

hours was typically short, but he made a genuine effort to offer more hours to demanding students (even offering review hours on this coming Saturday the 6th). I can't imagine how many emails he must have sent to students in the course for problem help or for general questions, but he was always very responsive to me, and would let me know if he couldn't respond for a time. I only wish I could have gotten to know Professor Cipolli better during this semester. But with all professor's pedagogy, there were some weaknesses with Cipolli's pedagogy and the course in general. Towards the beginning of the semester, his humor and authenticity were slightly overpowering, often making funny, yet minorly degrading jokes about student's participation, writing skills, and math skills. While some found this funny, others did not, but I personally didn't mind it. I think it served to really tell students that they need to step up their game. Paying 100+ dollars for homework and an online textbook weren't totally worth it, but the practice problems were helpful. The iclicker idea, for \$80 per clicker, also failed. One thing that I would consider unprofessional were the amount of errors in the homework, practice problems, and even in class that Professor Cipollo made, which did not help to adequately prepare students or build trust. It was clear that Cipolli was a green professor, but through continually checking in, it was remarkable to see how quickly he adjusted his style. I think this is strongly indicative of his potential as a professor in the future. Thus, with a balanced understanding of both praise and critique, it is my hope that I will Professor Cipolli will continue to share his humor, authenticity, care, and knowledge with the Colgate Community for many years to come. Thank you for a deeply enjoyable semester, Professor!

o Student 72

- **Reason:** Major or minor requirement; Interest in the course material
- **Effort:** I put conscious effort into this class. There were assigned homeworks due every week or so that required effort and time, there was a writing assignment that required a lot of effort and independent thinking, and I had to study before every quiz, which was every week. Required effort but if you pay attention in class the class is super doable and not too demanding.
- **Understanding & Appreciation:** I enjoyed real life examples the professor gave-it was interesting to see stats related to outside of class life, like politics and economics and such. Overall was an interesting class and made me like and understand stats more.
- **Intellectual Growth:** We had a writing assignment that required us to use R and do outside research. I thought it was difficult but really interesting!! We had to use the R statistics program on our computer which I think was helpful to learn how to use because I really don't understand technology much so it was nice to learn other skills. Also the assignment required us to analyze statistical data in a science context which I thought was interesting. We learned about stats in the real world.
- **Quality:** The professor was organized, gave good examples, and overall was very clear if one pays attention

in class. I didn't really have any issues not understanding topics. However, his grading scale was kind of confusing-I'm not quite sure how all the sectors of class go towards my final grade and he hasn't made it that clear. Other than that it was a good class, pretty interesting, and difficult but not too difficult.

○ Student 73

- **Reason:** Major or minor requirement; Core or Areas of Inquiry (distribution) requirement; Interest in the course material
- **Effort:** I put in a lot of effort.
- **Understanding & Appreciation:** This course showed me that statistics is much bigger than I thought.
- **Intellectual Growth:** I am not really sure it did?
- **Quality:** I think the teaching was good. The professor used good examples and taught well, in a class of 150 when people don't speak up when they are confused it's easy to go fast if you have no reason not to. I don't agree with some of his grading procedures and believe they are unfair but that is how he decides to run his class.

○ Student 74

- **Reason:** Major or minor requirement
- **Effort:** homework, studying for standards, going to class
- **Understanding & Appreciation:** The course gave me a deeper understanding for statistics.
- **Intellectual Growth:** It helped me understand other forms of math.
- **Quality:** Sometimes the class went too fast or I was confused when we did problems.

○ Student 75

- **Reason:** Major or minor requirement; Exploration of possible major or minor; Interest in the course material
- **Effort:** I put in a lot of effort. Since this course requires you to build on material you already learned, missing a day / assignment would greatly impact your score.
- **Understanding & Appreciation:** I had a very minimal stats background, and taking this course expanded that.
- **Intellectual Growth:** Naked Statistics, a book that we were required to read, presented many interesting ways in which stats affect our lives.
- **Quality:** I recommend the professor to be a little less harsh with grading. Especially with standards, one mistake on material you clearly know could heavily impact your grade.

○ Student 76

- **Reason:** Other requirement
- **Effort:** I put significant effort into this course through completing all homework assignments, studying often for the standards, and attending tutoring hours as often as possible in an attempt to better understand the

material.

- **Understanding & Appreciation:** This course made me realize how widespread the use of statistics are.
 - **Intellectual Growth:** This course contributed to my intellectual growth by forcing me to learn how to learn the subjects on my own as well as outside from class time. I feel as though my understanding of the topics came largely from my time spent at tutoring hours, or collaborating with other students.
 - **Quality:** I think that the style of teaching employed in this course would serve the students better if it were in a smaller class. I feel as though Professor Cipolli had too many students to ensure that all of his students were keeping up with their understanding of the material.
- Student 77
- **Reason:** Other requirement; Statistics is an important, relevant knowledge to have no matter what career path one is on.
 - **Effort:** I put a great deal of effort into this course.
 - **Understanding & Appreciation:** I appreciate and understand statistics greatly, and this is my first experience taking a statistics class.
 - **Intellectual Growth:** It definitely contributed to my intellectual growth and education, as it provided me with the skill to understand numbers and data in a way I was never able to before.
 - **Quality:** The quality of teaching was outstanding. Professor Cipolli got a lot of unnecessary, unfair critiques from students for his constant pop quizzes, but I believe these were in our best interest. They forced students to review every night. They required an engagement and commitment to the course material that is fair considering this is a college course at a highly ranked institution. He also cares about his students so so so deeply. When the sexual assaults came to light on campus, Professor Cipolli took the time to write us a letter expressing his sadness, and his wish to be there for us in anyway possible. He took any opportunity he could to remind us that he was on our side, and more than just a Professor. Colgate needs more Professors like this, Professors that are empathetic and compassionate and recognize that the classroom is not separate from life, and life is not separate from the classroom.
- Student 78
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** Interest in the course material
 - **Effort:** I would spend many nights working on the homework and practice problems with study groups.
 - **Understanding & Appreciation:** It has made me dislike the material.
 - **Intellectual Growth:** It did not.
 - **Quality:** Professor was very unclear when it came to his syllabus and communicating the grading policy. Also I have heard that he has been condescending to my peers in office hours.

- Student 79
 - **Reason:** Major or minor requirement
 - **Effort:** Doing the homework assignments, reviewing material before each class, learning how to use R to do the writing assignment
 - **Understanding & Appreciation:** I now know how to do certain statistical analyses
 - **Intellectual Growth:** I am not typically a math student, so this course gave me a wider range of knowledge and understanding beyond the fields in which I feel most comfortable.
 - **Quality:** Professor Cipolli tries really hard to be the best he can be, but he is a work in progress. He held a lot of office hours and posted helpful things on Moodle, but he would get really frustrated with us in class, have a mini freak-out, and apologize a little bit later. He would also frequently send us very long messages (either over email or attached to our tests) explaining himself. This seemed like it was more for him than for us. Regardless, he puts in a genuine effort to help us succeed in this class.
- Student 80
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I put in a decent amount of effort in this course.
 - **Understanding & Appreciation:** The examples used caught my attention and helped me learn better.
 - **Intellectual Growth:** It increased my knowledge of this course which will help me down the road towards my major.
 - **Quality:** Good teaching but sometimes forgets its such a large class.
- Student 81
 - **Reason:** Major or minor requirement; Exploration of possible major or minor; Interest in the course material; Need it for economics major
 - **Effort:** I did all of the homework and showed up to class most of the time.
 - **Understanding & Appreciation:** Stats can be cool and I see how it fits with economics.
 - **Intellectual Growth:** The course has enriched my understanding of statistics.
 - **Quality:** Cipolli isn't a great teacher unfortunately and I think his role as instructor for our class took away from the course's potential. The standards quizzes are in awful idea which are more punitive than anything else. His class is usually boring and he seems like he doesn't really know what he's doing. His practice problems are litter with errors, to the point where I start to question if he's qualified at all. However he does seem like a cool guy who'd be great to chill out and have a beer or two with.
- Student 82
 - **Reason:** Other requirement; Statistics is highly recommended for graduate school programs that I am

interest in.

- **Effort:** I did not put a large amount of effort in the course. Prior to quizzes and tests I would review my notes and online answer keys and that seemed to be sufficient.
 - **Understanding & Appreciation:** This is my favorite subject within in math and therefore I did enjoy learning it, especially with my past experience taking calculus.
 - **Intellectual Growth:** I think this course issues applicable yo life outside of the classroom and I have used the subject matter countless times in conducting research here at Colgate and within various upper level courses within my major that require statistics, such as epidemiology.
 - **Quality:** I think that Professor Cipolli genuinely cares about his students and wants them to succeed as long as they are willing to put in the effort. In theory this is very good and it was definitely conveyed multiple times within his course, but I think his biggest downfall was implanting this idea within the class structure and grading policies. I understand professors frustration when people are only concerned with getting an A and I do agree that they should be reserved for mastering the subject matter at hand, but reducing the grading system to 0-4 scale of subjects puts a lot of pressure on students and can unfairly hurt them. I found myself worried and in a difficult position where one rounding error or calculation malfunction, that would normally be the cause of a minuscule point loss within a course, resulted in my quiz grade (a grade worth 40% of my final grade) being reduced 11 percentage points. I kept hearing multiple times from the professor that he makes mistakes all the time, especially in such a big class like this, whether it be a typo on the answer key or a miscalculation of grades and this is only to be expected from professors. But mistakes were addressed as a natural phenomenon for everyone yet when it came to student mistakes or small errors his grading policies were not conducive to dealing with them. Grading policies were established as a range meaning that the obtaining of an A should not be reserved for only those who can get everything right 100% of the time. Besides his grading policies which, I did not suffer greatly from, although I know others that did and felt like they put an additional stress on me this semester, I think that Professor Cipolli is doing a great job teaching. He is always engaged and wants his students to be as well.
- o Student 83
- **Reason:** Exploration of possible major or minor
 - **Effort:** I worked very hard
 - **Understanding & Appreciation:** I had to learn all of the course material quite thoroughly, mainly as a result of the standards. In terms of appreciation, I feel like my frustration at the standards made me more focused on obtaining better grades rather than learning, but that is likely due to the emphasis I place on my grades. It's hard to find a balance between making the course challenging and fostering appreciation for the course material within students, especially when they are all very focused on obtaining grades rather than

actually learning. I think Professor Cipolli really manages to make the course challenging and tries to guide us to appreciate the material better, and he does this to a fairly successful standard.

- **Intellectual Growth:** Oddly enough I learned more about myself in terms of how I deal with tests, challenges, and frustration. The fact vs feeling issue really comes up in this class and makes you wonder about whether you came here to learn or get good grades.
 - **Quality:** The professor was very accessible. The standards were very frustrating but from a macro point of view, they were actually pretty fair, especially considering the extra credit. He also takes our feedback into consideration. In terms of weaknesses, I think we could have more practice and go through these practice questions on the board. This is already covered to some extent but more practice is never a bad thing.
- Student 84
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I always made sure that I completed the homework before it was due because he usually gave us a while to complete it. Also, for most of the semester we had pop quizzes, so I was constantly going over my notes and doing practice problems just in case we were going to be quizzed that day.
 - **Understanding & Appreciation:** I can now see how statistics can be used in any part of daily life. Statistics are everywhere and even if they are not correct statistics, they are still important to note.
 - **Intellectual Growth:** Because we had pop quizzes so often, I learned how to always be prepared to be tested on the material and know it really well.
 - **Quality:** This class was much more boring than I thought it would be. For most of the semester, professor Cipolli would just read off of his power points and lecture us on math topics. Once we started actually doing examples on the board, I was able to understand the material a little better. However, I think I learned more from just reading the power point slides myself and doing practice problems than I did from any class this entire semester. I do not think Professor Cipolli understands that this is Colgate University and students have an insane amount of work and other activities and do not have time to spend 2 hours a day studying for potential pop quizzes. This was not my only class. Also, I received one of the rudest emails I have ever gotten from Professor Cipolli regarding my writing assignment for the class. I did not find him to be very helpful or sincere.
- Student 85
- **Reason:** Core or Areas of Inquiry (distribution) requirement; Interest in the course material
 - **Effort:** I would say that I put a good amount of effort into this class. I definitely did not spend time everyday doing problems for stats as I probably should have to get a better grade, but overall I didn't find myself slacking in any way. I think that after I didn't do great at the beginning of the semester that I focused more and tried to do everything I could in order to get a better grade. I am sad that it took me not doing well to

study more, but it served as my motivation.

- **Understanding & Appreciation:** This class made me realize that stats isn't as easy as I assumed it to be. I thought it would be very straightforward in nature, but in reality there is more than meets the eye. I think it is easy to follow along with the equations, but understanding what it means serves as the difficult part.
 - **Intellectual Growth:** I learned how much time and effort it takes into performing surveys and taking into account individual's responses on polls, etc. Stats made me realize that we cannot always rely on it for it to be valid so doing more testing will represent more confidence.
 - **Quality:** I think that a lot of people didn't like Cipolli because of his grading system. I can see where it can be beneficial because it pushes students to study consistently if they want to get a good grade. I just think a lot of people are lazy and are not willing to put in all of the effort necessary in order to get the grade they are looking for.
- o Student 86
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I did the necessary work Such as homeworks, moderate studying and getting help when I need it
 - **Understanding & Appreciation:** I am now more confused about statistics than when I started this course because I am not a math person and statistics is so confusing and ambiguous. Like there's not a right answer even because you can use a different confidence interval and you can never trust a sample
 - **Intellectual Growth:** I know I don't want to go into a math related field and always to have a statistician on hand for when someone needs to calculate this stuff
 - **Quality:** He really cares about the students learning and tries to make himself accessible. Overall he's a little intimidating and he goes fast for us slow learners
- o Student 87
- **Reason:** Major or minor requirement
 - **Effort:** I put a lot of effort into this course in doing the homework, studying for the standards, and in doing the writing assignment.
 - **Understanding & Appreciation:** I had already taken AP Stat and received a 5, but I wanted to review for it because I am going to take Econometrics in two semesters. Overall, I thought this course was very helpful for learning about Stat, and Professor Cipolli made stat very interesting.
 - **Intellectual Growth:** I learned how to use Statistics in areas that are not just related to statistics, but in every possible subject.
 - **Quality:** Professor Cipolli is a very good professor and is very good at conveying the information. I thought that he made the course interesting, and was one of the most helpful professors I have ever had. The only weakness I believed was I wish we could have gone faster and covered more material as often I was not

challenged, but doing so was made impossible by the many students in the class who had never taken Stat.

○ Student 88

- **Reason:** Interest in the course material
- **Effort:** I put a significant amount of effort into this course. I studied and reviewed the material every night before class, in preparation for the standards testing. I worked on the homework throughout the week so that I would not have to do it all in one night.
- **Understanding & Appreciation:** I didn't have any background in Statistics before this course so this gave me a good base of understanding which made me more interested in the subject.
- **Intellectual Growth:** This course showed the various applications of statistics in the real world, and showed how important it is to have a knowledge of statistics in any job.
- **Quality:** Sometimes it seemed like grading was a little harsh, but the professor was still very clear about the ways he would grade things. As talked about in depth throughout the semester, the standards testing put a lot of stress on the students and it seems like there could be a different way to test the standards than how they were tested. But the professor did try to be as helpful as possible in class, sometimes devoting a whole class period to only answering people's questions.

○ Student 89

- **Reason:** Elective outside major or minor
- **Effort:** I could have taken a much easier course second semester of senior year but I wanted to learn statistics, I have tried to give this class the old college try as they say. I have done all the assignments and studied for every assessment. In retrospect I could have done more practice problems but I just did not have the time.
- **Understanding & Appreciation:** I learned stats but also gained an understanding of all the discussions in the news that refer to stats. Very valuable.
- **Intellectual Growth:** As I said, basic understanding of stats is an everyday useful skill
- **Quality:** He was okay, I think this class is too big, I don't think he should be teaching to a huge lecture hall.

○ Student 90

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I attended every class, did the homework assignments and studied for the standard quizzes. Math is a challenging subject for me so I put in effort to do well.
- **Understanding & Appreciation:** I don't like math and only took this course because Colgate forces us to take math/science courses. While my understanding grew, my appreciation for the subject stayed about the same.
- **Intellectual Growth:** I am potentially interested in going into Foreign Service and statistics is a course they suggest to take.

- **Quality:** Professor Cipolli does not do well teaching an introduction course that is mostly made up of underclassmen. He is condensending and judgemental when students ask questions, to the point that I do not enjoy going to his office hours for clarifications on assignments. His office hours, up until 2 weeks ago when he changed them, were incredibly inconvenient because I was always in class. He seems passionate about the subject he teaches but he needs to recognize that many people in the room haven't been exposed to math in several years (upperclassmen who take the couse to fulfill a requirement) or underclassmen who are still getting accustomed to Colgate. His expectations were very high, which can be a positive thing if the professor is encouraging, but he has not been particularly encouraging.
- o Student 91
 - **Reason:** Interest in the course material
 - **Effort:** I would say I put a good deal of effort into this course, almost always reviewing material before class in the case that there was a quiz. In terms of the writing assignment, I think I put an extreme amount of effort into this, which may have been excessive considering it was only worth 10 points. However, the prompt seemed convoluted and the R code was extremely difficult to manipulate, as we had never been required to use it or had learned much about how exactly to use it.
 - **Understanding & Appreciation:** This course caused me to gain appreciation for the subject of statistics.
 - **Intellectual Growth:** This course helped me to understand and question the polling that occurs and is published so often in popular media.
 - **Quality:** Although I realize there is not much you can do as a professor of such a large lecture, but I do think the class could benefit from different styles of teaching. Towards the end of the semester, I thought it was much better that you did problems on the board rather than flipping through powerpoints. I also liked the few days that we did practice problems with others in the class. I think a combination of these three class styles would be best for the future, as it would not only make class more interesting, but also teach the material better. In terms of weaknesses, as I mentioned above, I think the requirement to complete R code was unfair, as we never truly have used it before. I have heard from many people the frustration they felt when they went into office hours and received little to no help even though they had attempted to do it on their own multiple times. If someone is coming in for office hours, it clearly means they are struggling. They don't want to be sent away at the door and accused that they "did not try it". It is a huge double standard to make such a big point of promoting office hours only to not help the students who actually show up.
- o Student 92
 - **Effort:** I put a lot of effort in trting to stay on top of the homework and studying for quizzes.
 - **Understanding & Appreciation:** I was able to learn a lot about how useful statistics can be and how once you can understand it, its not that bad.

- **Intellectual Growth:** I was able to realize how valuable stats can be in the real world and how it can also be very misleading.
- **Quality:** He was very good at allowing for questions in class at any time throughout the lecture. It was hard to learn anything from the lectures alone.
- Student 93
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put a good amount of effort into this course.
 - **Understanding & Appreciation:** I gained a new appreciation for Statistics after taking this course, not only did it motivate my interest in the subject matter, but it was also very interesting—very different from my AP stats class in high school.
 - **Intellectual Growth:** It taught me to be critical of all information, and to do research to check its validity.
 - **Quality:** I thought Professor Cipolli was an excellent professor.
- Student 94
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I would always re-read the notes and write my own notes based off them. Before the quizzes, I would solve practice problems as well as complete the homework to prepare me for the quizzes.
 - **Understanding & Appreciation:** This course allowed me to see and visualize the beauty of statistics as it contains the possibility of calculating almost any possibility, which is a powerful tool.
 - **Intellectual Growth:** Basic probability has allowed me to make more logical and rational decisions. As a result, I have become a better person. In addition, I believe that I had to teach myself a lot of the course given I wouldn't gain much from class lectures; thus, I feel better about myself knowing that I was able to navigate myself through the abyss of statistics.
 - **Quality:** Personally, I did not like the professor or the way the class was set up. I thought it had too high of standards for an introduction class which, for most people, is only taken to complete a requirement that most have no desire of taking. As a result, I don't believe that he should have pop quizzes twice a week and require us to code math as that is egregious and silly to require students to do so when most of them don't even share the desire to take the course. This course could've been managed a lot better. I do think he brought a lot of enthusiasm and passion to the course but that wasn't enough to create a beneficiary learning environment.
- Student 95
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 - **Reason:** Other requirement; I supposedly need this class for the MCAT
 - **Effort:** Regular Homework and practice problems and constant studying and stress for daily pop quizzes

- **Understanding & Appreciation:** I did not.
 - **Intellectual Growth:** It did not.
 - **Quality:** The instructor has designed the grading procedures in such a way that it maximizes stress on the students. When your entire grade is based on your most recent performance on pop-quizzes, and the only way to get an A in this section is to have a perfect score, students become overwhelmed. The instructor also seems to think that this class should be equal, in terms of time and effort, with our major classes. This is a little ridiculous. The instructor felt the need to make homework problems and the writing assignments almost impossible to do without R-studios. This wouldn't be that bad if the class focused on how to use R-studios, but the only time that is done is at office hours. This is a stats class not a comp-sci class, leave that to CORE. In all I think the instructor has unrealistic expectations and grading standards.
- o Student 96
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** This class required a lot of effort outside of the classroom. Being a large lecture style class it was mostly note taking during the actual class and we would go through a lot of topics very quickly. I found that I usually had to reteach myself everything that we had learned again on my own time because it was not necessarily taught thoroughly in class. We also had a ton of pop quizzes that required us to always be studying everything that we had learned.
 - **Understanding & Appreciation:** Being an introduction level course I had never had any exposure to statistics, so it definitely gave me an overview of the topics. I definitely have more knowledge than I did going in to this class, but the constantly worrying about a pop quiz and some of the other assignments prevented me from actually appreciating the material.
 - **Intellectual Growth:** This class definitely taught me how to be an independent thinker. I had to spend a ton of time outside of the class teaching myself material from the beginning again and doing the homework/studying for tests and quizzes on my own.
 - **Quality:** I think that teaching an intro level class to 150 college students is a difficult task to do and I acknowledge and appreciate that. However, I think that it could have been handled in a better way and he could have been more receptive to students critiques. One thing that the majority of students asked to change was taking the higher standard grade as opposed to the most recent because we thought his policy was greatly unfair yet he did not do anything to change it. I think that there were a lot of things that could have been covered more thoroughly/clarified in class so the students wouldn't have had to spend as many extra hours as they did relearning everything then completing the assignments.
- o Student 97
- **Reason:** Core or Areas of Inquiry (distribution) requirement Additional Reason(s): I took this course because

Colgate is the epitome of white male supremacy and I am/was quite eager to graduate

- **Effort:** A lot. I went to tutoring often and used outside resources
 - **Understanding & Appreciation:** It showed me the importance of looking further into how information and data are gathered and to be critical of information presented to you
 - **Intellectual Growth:** N/A
 - **Quality:** Prof. Cipolli was really dope and always dresses like it's Easter. He tried to engage students in multiple ways. He also cared about the humanity of his students
- Student 98
- **Reason:** Other requirement
 - **Effort:** I put in a lot of effort into this course; quizzes were given nearly every class so studying was important and the material in class was very unclear so I generally had to go back through the powerpoint slides on my own and teach myself.
 - **Understanding & Appreciation:** Statistics is wicked hard. I can certainly appreciate its utility but my interest in it has not really increased.
 - **Intellectual Growth:** The frequent quizzes and my lack of understanding in class helped me grow intellectually in the sense that I had to put in the work outside of class and manage my work responsibly in order to succeed
 - **Quality:** Professor is very eager and willing to help his students. Super cool and wants them to succeed but is often unclear in lectures, thinking that students understand his thought processes as he writes them out on the board but without fully explaining them. In his defense the course is cumulative so if you don't understand something there's a snowball effect and the size of the class isn't really all that conducive to learning in this manner anyway but the style of teaching that does not specify what we will need to know makes it confusing as we have no clue what to study for or review on any given day.
- Student 99
- **Reason:** Major or minor requirement
 - **Effort:** I put a great amount of effort into this course on every assignment.
 - **Understanding & Appreciation:** Not one bit
 - **Intellectual Growth:** In no ways.
 - **Quality:** Cipolli is a smart guy, but is not fit to be a professor at all. He looks down on his students, has extremely unclear grading methods, and expects far too much of his introductory students.
- Student 100
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** not enough apparently.

- **Understanding & Appreciation:** Not much. Honestly, we moved so fast through the course that it's hard to even pick up an incident where I actually "understood" what we learned in class.
 - **Intellectual Growth:** Not much. I am not great at mathematics, this course really just showed me that this is not where I should put my emphasis academically. Stats is just not for me.
 - **Quality:** Well. The professor's teaching style was not (in my opinion) the best. Since this was a bigger class, I feel like he could have had a different approach in explaining the material. we had a lot to cover and it was all very important, but we were moving so fast through the material that somewhere in the middle of the semester I realized I was lost and was unable to follow after that. I ended up spending the rest of my semester learning from YouTube since I clearly was not understanding what was taught in class. I don't think that should be the case considering the amount of money I was required to spend on this course, and the amount of money my parents pour into my education. I expected better for this class. and honestly, I wish the course moved at a slower pace so that everyone would be on the same page.
- Student 101
 - **Reason:** Major or minor requirement
 - **Understanding & Appreciation:** This course contributed to my understanding and appreciation of statistics and the value of statistics in our society today especially in areas such as scientific research. A lot of the material that I learned in this course will be applicable in my future classes and reading of scientific papers.
 - **Quality:** The instructor had clear explanations of the material in lecture, and provided very helpful powerpoints. The practice questions and the homework were extremely helpful in terms of understanding the material and the standards quizzes reflected the material that was taught. The instructor did everything he possibly could to ensure that the students could succeed if they put in the effort . The only slight issue with the course was that the grading policy was not very clear and it still seems a little ridiculous that your grade can drop from an A to a B if you do not get a perfect score on all of the standards.
 - Student 102
 - **Reason:** Core or Areas of Inquiry (distribution) requirement; Other requirement; Interest in the course material
 - Student 103
 - **Reason:** Other requirement
 - **Effort:** I put in countless hours each day to go over practice problems in case there was a pop quiz. I also reviewed the powerpoint notes for at least 2 hours every night. I went over many things that I did not understand with a friend almost every night.
 - **Understanding & Appreciation:** This course did not contribute to my appreciation of the course subject. Rather, I have grown to not like statistics after the course.

- **Intellectual Growth:** This course really pushed me to learn many of the materials on my own outside of class. On a different note, I believe the course contributed to my intellectual growth in a way that now I think I would be able to analyze data.
- **Quality:** Professor Cipolli was very organized and was willing to go over questions instead of rushing students to move onto a new chapter. However, his sarcasm often sounded condescending, preventing me to feel like I was capable of knowing what was being taught in class. Professor also encouraged many students to visit him at office hours, however, whenever I was by his office, he was never there. Not only was his office hours schedule was confusing because he had written his schedule by saying "the probability that I will be in my office", he was not in his office even when the "probability that he would be in his office" was high. He also was eager to get feedback from students, yet, whenever we made complaints or voiced our concerns (specifically on standards quizzes), he dismissed our concerns and had not really changed anything to the course until 3 weeks left of classes. With so much material given to us in such a short time, professor expected us to be prepared to be tested on things that we may have already known but forgot due to the fact that there were so many other things that we had to know. Students did not know what to expect on those standard quizzes and to have standards be worth the majority of our overall grade, I felt as though professor was trying to fail us. He never listened to our concerns, he never explained the materials well enough for me to leave class feeling comfortable. Coming to such an elite liberal arts college, I understand that I have to be responsible for how much I get out of during my time here. However, I also believe that professors should take into account that their teaching affects how we learn. Unfortunately, I don't think I received the education that i deserved from professor Cipolli.
- o Student 104
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I dedicated the most energy to this class this semester. I often times would place the work for this class above the work for others such that I would not fall behind.
 - **Understanding & Appreciation:** I love stats, but hated this course.
 - **Intellectual Growth:** I learned a lot, and developed new tools to think critically.
 - **Quality:** The structure of this class is insane and is not rewarding by any means. It just does not make sense.
- o Student 105
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** Review topics daily to stay on top of all standards and spend multiple hours on homework going through each step of every question
 - **Understanding & Appreciation:** Course made me appreciate and understand the subject of statistics

significantly more

- **Intellectual Growth:** Course contributed positively to my intellectual growth
 - **Quality:** Quality of teaching is good, but Cipolli often speeds through various topics, so I have to often learn some of the material on my own. Also, I feel that he could use the chalkboard in his room to go through problems step-by-step, rather than just have the question and answer on a slide in a powerpoint. Otherwise, Cipolli is a great professor.
- Student 106
- **Reason:** Major or minor requirement
 - **Effort:** I put the amount of effort that was required for this course, which included homeworks and studying for standards.
 - **Understanding & Appreciation:** This course taught me the basics of statistics that will be helpful in the future.
 - **Quality:** Professor Cipolli is a good guy who cares about his students and wants everyone to do well. However the structure of his class was sometimes questionable and confusing. I could tell he really works hard to make the class as productive as it could be, which i appreciate. But some things we did and his grading system is definitely different from most.
- Student 107
- **Reason:** Elective outside major or minor; Interest in the course material
 - **Effort:** Weekly homeworks and studying for standards quizzes
 - **Understanding & Appreciation:** I took AP stats in high school but I definitely feel like I understand the subject matter more now than before
 - **Intellectual Growth:** Statistical analysis knowledge is useful in many other classes. Also thinking in a statistical way is good for problem solving
 - **Quality:** A major strength of Professor Cipolli is his willingness to learn and improve as a professor
- Student 108
- **Reason:** Major or minor requirement
 - **Effort:** Studied really hard for about 3 hours every tuesday night.
 - **Understanding & Appreciation:** He gave use a quiz that was almost equivalent to a final every wednesday which forced me to learn.
 - **Intellectual Growth:** It didnt
 - **Quality:** Prof Cipolli is a fine instructor who clearly is clearly very intelligent. His grading standards are unfair and incomprehensible to the student. 40% of our grade is based on quizzes. His grading of these quizzes, and the percent score we receive is left to his discretion. The student has little idea of how his grade is

calculated. Prof Cipolli also may be the most pretentious instructor that I have encountered since all my time as a student. It often seems as if he looks down on his students and claims that our poor performances are a result of a poor work ethic. In all, I have learned a lot from him, but I leave this class with much disdain.

○ Student 109

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I put a lot of effort into this course, considering I am not naturally great in mathematics or confident in my math abilities and had to study every day, take notes on my homework, and try to follow along in class just so I would have a basic understanding of what was happening.
- **Understanding & Appreciation:** This course contributed to my understanding and appreciation of the course subject because it was taught in a very cumulative manner; thus, all of the topics are connected and built off of one another which gives me a more solid understanding of statistics rather than trying to memorize various different formulas or functions.
- **Intellectual Growth:** This course contributed to my intellectual growth beyond my understanding of the course subject because statistics was something I was extremely uncomfortable with and only took to fill my core requirements; however, I really challenged myself and am pleased with how far that I have come and proud of the work I have done.
- **Quality:** Professor Cipolli is a very intelligent mathematician, which is great and the quality of his teaching was very high; however, sometimes I got confused trying to follow along with the speed of his teaching. I think in order to aid this dilemma, he could assign the powerpoint notes as readings, so we walk into class with some form of understanding of what we are going to be learning. A strength that he has is his ability to take questions and answer them and completely cater the class to all of our learning needs. He is funny, personable, and accessible and many of the times asks for student's input when making a decision for scheduling or what have you.

○ Student 110

- **Reason:** Interest in the course material
- **Effort:** I would do all homework assignments and came to class prepared to learn. I also put in time to do all practice problem worksheets and tried to really teach myself the material.
- **Understanding & Appreciation:** This course taught me how to do confidence intervals and how to do reject a null hypothesis. I've heard of these terms before but never understand what they were or how you determined it. Thus, this course taught me how to do calculations I didn't know how to do.
- **Intellectual Growth:** This course taught me how to teach myself material if I had no idea what was going on. Often times I found myself learning the material on my own and realizing that going to class wasn't very helpful. However, I still went to every single class.

- **Quality:** Honestly, I've never been so disappointed in a Professor here at Colgate. I went to office hours multiple times and was told to come back later because Professor Cipolli was too busy with other work. When visibly frustrated with the R software, the Professor told me he'd send me the codes to help to solve my problems. Even after doing this I was still having a difficult time. I wish that I could've been taken more seriously about my questions during office hours but I simply wasn't. Furthermore, I'm grateful for all the material that was posted on moodle because through all that material I was able to teach myself and do fairly decent in the class.
- o Student 111
 - **Reason:** Major or minor requirement
 - **Effort:** I had previously taken AP Stats in high school, sophomore year, so I was familiar with the material but did not feel comfortable using AP credit. Since I had taken this class four years ago I needed some refreshers and went to office hours a few time but did not require what I believe to be too much effort
 - **Understanding & Appreciation:** Professor Cipolli's quizzes/midterm all used real life studies/experiments which I found to be incredibly interesting. As a result I have picked up tidbits of knowledge I was previously unaware of all the while learning statistics.
 - **Intellectual Growth:** I had never used R before and I'm sure many students will complain about that on here. We were given pretty much everything we needed to copy and paste and if we hadn't used R we would have had to use Excel or do things by hand. I'm sure students dont have that in depth knowledge of Excel either and R is much easier to use. I appreciated what R was able to do in terms of writing the writing assignment and checking my work
- o Student 112
 - **Quality:** Professor Cipolli did an incredible job teaching this class to 150+ students. Students constantly doubted his approach to the "standards", myself included initially, that it was impossible to earn an A. Plot twist, it is possible and honestly not too hard. He dealt with constant questions incredibly well and was incredibly helpful in office hours. Assignments were returned graded faster than any of my other classes, which says a lot considering the size of this course. He holds well beyond the required number of office hours and if you stop by outside of those he is more than willing to answer questions. He is also incredibly receptive to feedback on his teaching, sending out several surveys throughout the semester to get feedback. I appreciated that he took the feedback and made small changes but still remained committed to his overall method of teaching. My little sister, a freshman at Colgate, is in CORE Stats and I was almost jealous she was going to be taking this class in a smaller setting, but I was truly surprised and impressed with how Professor Cipolli taught this course- in a good way.
- o Student 113

- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I practically studied for this course every day. He gave us quizzes almost every class in the beginning of the year and it was really frustrating because no matter how much I studied it seemed like I could not get the grade I wanted. I would meet up in the library with my friends most nights before class and have a group study session and that helped towards the end of the year but it is ridiculous that we had that many quizzes.
 - **Understanding & Appreciation:** I not only don't appreciate the course subject but I hate it now because of my professor. He was just incredibly unfair and he had unbelievably high standards for the class. It was like I was taking a 300 level course but we are in a 100 level. This is INTRO to stats not statistics 400. I should not have more work in this class than I do for my 200 and 300 level classes.
 - **Intellectual Growth:** Did not contribute at all. It made me want to stay away from the math department all together at Colgate. In fact I can say not that I will never take another math class at Colgate.
 - **Quality:** I think he was a really bad teacher. His grading is unfair because for the quizzes I should have around an 86 percent and yet he gave me an 84 because he uses his discretion. What does that even mean? He does not like me as a student because math is not my favorite subject, so you are going to take two points off of my grade just because you feel like it. It just makes no sense to me. He also gave no partial credit on the midterm and he just expects a ridiculous amount from his students for a 100 level course. I would also email him for help and his response was always, "read the syllabus." I have read the syllabus 40000 times but I still do not understand and he just would not bother helping.
- o Student 114
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Understanding & Appreciation:** I appreciate all of the different sides to statistics and how applicable it is to our lives when I used to think it wasn't at all.
 - **Intellectual Growth:** I realized it is a lot more useful than I thought it was and very useful in many situations and I could use it one day or maybe do something with it in the future.
 - **Quality:** I thought he could be rude/condescending at times. The extra credit assignment was to give him constructive criticism and the way he responded sounded like he didn't want it, so I didn't really see the point of that. He basically was fighting what I said when I was just giving suggestions from my personal experience.
 - o Student 115
 - **Reason:** Core or Areas of Inquiry (distribution) requirement; I needed to take this course for my math/science credit.
 - **Effort:** I put a great deal of effort into this course and felt very dismayed at the lack of respect that I received from the professor. I worked very hard and still did not do great in the class due to his weird and

ineffective grading standards.

- **Understanding & Appreciation:** This course gave me a basic understanding of the material, but the professor often did not explain things fully to the class when he was doing problems on the board. If you did not understand something he made you feel as if you were dumb and told us multiple times that "it's a freshmen level class, high school even and you all should be understanding this. It's not that hard..." Comments like these made me insecure to ask questions because I felt as if he was judging me every time I did not understand something.
 - **Intellectual Growth:** It did not.
 - **Quality:** I was very put off by the disrespectful treatment that I received from the professor. His office hours were inaccessible, due to the limited time and how they were always during other classes and I once emailed him a question and he told me to come to office hours, when the purpose of me emailing him was that I couldn't make it to his office hours. I did once go to his office during scheduled office hours and he physically blocked me from going into his office by poking his head out of the door and after 30 seconds of me asking a quick question, he said "now you understand? ok good." and proceeded to slam the door in my face. This treatment made me not want to seek out help for this course and thus, when I didn't understand something I did not know where to go to get help as I was not comfortable asking the Professor. Time and time again he insinuated that our class is spoiled, coddled, and does not have the desire to learn new material, which was insulting as everyone at Colgate is driven, passionate, and dedicated to academics. I was also extremely confused by his weird and arbitrary grading style. If you got one 3 on a standard then you automatically were dropped down to an 89, which shouldn't make any sense and quite frankly I do not understand why and how the University lets him grade this way. Also, it was not necessary to spend over \$100 on an online platform to submit homework on. We do not use the platform in class and it was a waste of money.
- o Student 116
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put a significant amount of effort into this course. However, I often put off studying until the last minute, rather than putting in consistent effort throughout the semester. I worked hard on all of the homework assignments and studied a lot for the midterm and standards quizzes. I went to office hours all of the time, tutoring hours a good amount of the time, and worked with another professor for outside help.
 - **Understanding & Appreciation:** I honestly only took this course to fulfill a requirement so that I can graduate. I do not really enjoy math. However, I do think I improved and gained some limited appreciation of the topic. It was helpful that the professor used relevant topics to engage with us.
 - **Intellectual Growth:** It required a different type of thinking than the majority of my Colgate coursework. I had to work extremely hard to study and attempt to understand the material, whereas I usually take courses

that focus on mostly writing assignments. It was very challenging for me.

- **Quality:** I thought this course was taught well. My main problems with it stemmed from the huge class size, not the teaching style for the professor. I think that Professor Cipolli would be able to teach a very strong course if he was given a smaller class size. He was extremely accessible in office hours and always available to answer questions. To be honest, this is the only math class I have taken at Colgate, so I don't really have anything to compare it to. I did find that the constant quizzes caused a feeling of never-ending evaluation and anxiety. However, it did help me stay up to date with the material throughout the semester, so that I did not have to cram at the last second for the final or the midterm. I hope that this balance can be struck in the future. It was very straightforward in that the quizzes were almost identical to the practice problems, so I think that some students did not really have a right to complain as much as they did about the quizzes.
- o Student 117
 - **Reason:** Major or minor requirement; Prereq for econometrics
 - **Effort:** Way more studying than had to be done
 - **Understanding & Appreciation:** None
 - **Intellectual Growth:** None
 - **Quality:** This course was made harder than it had to be, concepts (especially t values, hypothesis testing, and probability) were explained terribly, or never even fully explained, everything was made to seem harder than it actually was, and the overall attitude of the professor is not conducive to a positive environment.
- o Student 118
 - **Reason:** Other requirement Additional Reason(s): I took this course as a math class for medical school, and because I heard the work was very manageable.
 - **Effort:** I had to put a lot more effort into learning this course than expected. But I feel as though I spent a lot of time just teaching myself the material rather than studying and doing practice problem sets, because this course never really had a consistent method of teaching.
 - **Understanding & Appreciation:** I liked statistics before this course. I was really good at it in high school, and scored a 4 on the AP statistics exam. Now I feel like if I had to take that test again I would fail it. I always saw statistics as a helpful subject in math that allowed for us to really understand phenomena we see in the real world, but this class made me never want to perform statistical analysis again.
 - **Intellectual Growth:** If nothing else, I learned how to teach myself material that was difficult and had nothing to do with the course being taught. Using a computer program that I will never use again for a writing assignment that was a lot more work than it was worth taught me to work with friends to problem solve and take the time to teach myself the material.
 - **Quality:** Prof. Cipolli was definitely one of my least favorite professors I've had here at Colgate. While he

did hold plenty of office hours, I was always afraid to go because of how he talks to us at times in class. He can be rude and condescending, as he asks for our feedback and then gets defensive about the feedback given. He made passive aggressive comments, and once even accidentally antagonized a prospective student. One day, he taught calculus 3 because he wanted people to take his other classes. And he made us use a computer program that we weren't allowed to use on tests and seems completely pointless for real life applications of statistics. In short: he wasn't very kind to students and he barely taught statistics.

○ Student 119

- **Reason:** Core or Areas of Inquiry (distribution) requirement; Interest in the course material
Reason(s): I think an understanding of statistics is crucial in today's world and wanted to gain more understanding.
- **Effort:** I didn't put in an extraordinary effort into this class
- **Understanding & Appreciation:** I am learning how much statistics impact our daily lives. I have also learned to always look behind to statistics to see where the data came from.
- **Intellectual Growth:** I think this course forced me to be frustrated and work through it which is very beneficial.
- **Quality:** I think it is obvious that the professor is a skilled statistician, but forgets that we are not. Sometimes he looks through problems jumped from step to step with no clear explanation on how he got there.

○ Student 120

- **Reason:** Major or minor requirement
- **Effort:** I complete all the assignments on time and studied before every class due to the prevalence of cumulative pop quizzes.
- **Understanding & Appreciation:** I now have a decent understanding of the course but the class was not very interesting. Professor Cipolli tried his best to give interesting examples and to take contributions from students but it is hard to make statistics very appealing to someone who does not that a desire to learn it. Nonetheless, Professor Cipolli emphasizes learning the material thoroughly and not just memorizing
- **Intellectual Growth:** I learned a basic understanding of statistics which is important for the economics major and generally for everyday life
- **Quality:** Professor Cipolli had very peculiar and at times unfair grading standards. Quiz grades were 40% of your grade where any rounding error or improper notation on any problem throughout the year would result in a 100 dropped down to a 89 which is frankly illogical. Additionally, Professor Cipolli consistently changed and strayed away from the syllabus which made my obligations and grading standards unclear. Additionally, the class required a sophisticated knowledge of computer science which few students actually possessed. Due to this Professor Cipolli would become angry and be mostly unhelpful. He did seem overwhelmed by the

amount of students he needed to account for but after I had heard he was angrily sending away students from his office hours I no longer sought inperson assistance when it could have been useful. In saying this, Professor Cipolli did convey the majority of the material well and was dedicated to making himself as accessible to all his students as possible. He tried his best to be courteous and thorough but at times was bisibally overwhelmed and frustrated with the class.

○ Student 121

- **Reason:** Major or minor requirement
- **Effort:** This course, because it was so large, required a lot of personally motivated work, like going to tutoring for questions. All the notes were provided on line so it was easy to go back and learn what you missed.
- **Understanding & Appreciation:** This course helped me understand that we can't believe all the stats that are put out there in media. We have to pay attention to the sample and determine if the sample is really representative of the whole population.
- **Intellectual Growth:** This course really helped me to break down problems and take them step by step.
- **Quality:** I enjoyed Professor Cipolli as professor this semester. Even though we were his guinea pigs and the course structure was somewhat confusing at the beginning of the year, he was fair to us at the end and always made sure we were also in favor of the changes he made. He was always answering emails and was always willing to help. I know its hard to care about all your students when there are so many in the class, but Professor Cipolli really made that effort and I appreciate it. I know some people were frustrated with him, but I think they just didn't want to put any work into this course.

○ Student 122

- **Reason:** Other requirement; I took this course as a premed requirement.
- **Effort:** I put an incredible amount of effort into this class because I taught myself everything. I have gotten A's and high B's on everything no thanks to the professor or his TA. I spent countless hours simply trying to interpret his notes and how to use R with several of my classmates.
- **Understanding & Appreciation:** This course did not contribute to my understanding or appreciation for this course because I taught myself everything.
- **Intellectual Growth:** Truthfully, I learned how to take my education into my own hands and not to rely on a professor for help.
- **Quality:** -Cipolli was incredibly condescending when we would ask for help -When I sent him an email of what he could improve (after him asking us to do so), he sent me an essay defending himself and did not take my suggestions seriously -His TA graded my test and gave me an 85, when I had actually gotten a 95. I went in and told him this and he scolded me for rushing him (but then realized I still had a 85 in the

gradebook and told me "well I guess its a good thing you came in". -He told us how he was grading the standards but then completely changed it last minute. Nobody knew how he was grading us because he would be rude if anyone asked. -We never learned how to use R and I spent days trying to teach myself how to code. -His office hours were a chart of the "probability that he would be there" (including graphs). He was never there (even at a probability of .9). -I pay a lot of money to go here, and while I realize that my education is my problem, I expect to at least get something close to the education I am paying for. (i.e someone like Professor Liu). -So many grading mistakes Strength: moodle was organized nicely

o Student 123

- **Reason:** Interest in the course material
- **Effort:** I unfortunately had to put FAR more effort into this course than expected of an introductory level course .
- **Understanding & Appreciation:** Important to see where stats in the news come from/not always an accurate stat depending on what the population is.
- **Intellectual Growth:** Taught us to be skeptical, and check the facts which is always important.
- **Quality:** I honestly think Cipolli is a good professor – he’s a lot of fun and really cares about his students, but this was just not appropriate for an introductory level course. As someone who studies math at Colgate, I thought this was way too difficult for Math 105. Also he told one of his 300 level students that he was going to make this course a lot harder than it had been and was going to "make us use R" (again: so unnecessary- while most of it was copy and paste, we only used R for the writing assignment). Also, the standards, while he claims help learning, I think it just discourage the students overall. What does help is homework- doing the homework online really helped prepare me for the class and while lengthy, they were do-able. My recommendation would be to have 2 quizzes (one before and after the midterm), the midterm, and the final and then more but smaller homework assignments. It seems to me that Cipolli would be an incredible professor (he really is caring, passionate, and fun) for 300 level classes, but this was far too much and far too difficult for students who are not math students and don’t necessarily have a passion for the subject.

o Student 124

- **Reason:** Major or minor requirement
- **Effort:** taking notes in class and being attentive, completing online homework assignments, going into office hours, studying for quizzes and tests and making sure to stay on top of the material for pop quizzes at the beginning of the semester, trying to figure out code for a writing assignment
- **Understanding & Appreciation:** I had never taken a stats class before besides the math involved, all the material was new for me

- **Intellectual Growth:** Since all the material was new it pushed me to pay close attention in class and study more and go into office hours. The writing assignment also taught me I need to give myself more time than I think I'll need in the future when I am working with a completely new program/code
- **Quality:** I think Professor Cipolli is a great teacher. He made classes interesting and presented the material in a clear way. He was more than happy to meet with us in office hours and help out if we didn't understand something
- o Student 125
 - **Reason:** Exploration of possible major or minor; Elective within major or minor
 - **Effort:** I definitely tried for this course–i was studying for hours before possible quizzes and did numerous practice questions.
 - **Understanding & Appreciation:** This course did not fully cover what i thought it would. I took AP Statistics in high school, and we were able to explore many more topics with greater understanding and conceptualized thinking
 - **Intellectual Growth:** I did learn how to use R programming, and use less of my calculator.
 - **Quality:** Professor Cipolli had a lot of trouble actually respecting students when they asked questions that he denoted as "stupid" and if we had just read the syllabus more in depth, we would know the answer. He honestly needs a reality check since he is dealing with college students who dont really appreciate paragraph long apology emails after class, they would just appreciate some respect in class. For the entire semester, i was generally scared to ask questions because every time someone had a question, he would basically criticize them for having that questions, and answer very rudely, and sometimes not even answering at all, just saying "Check the syllabus"
- o Student 126
 -
 - **Reason:** Elective within major or minor
 - **Effort:** I had to put a great deal of effort into this course. I was continually studying. This was good to a certain extent but at sometimes it was too much. With quizzes twice a week sometimes I felt like I never had breathing room. I definitely spent most of my free time studying stats this semester.
 - **Understanding & Appreciation:** I have learned a lot as a result of this course. I've never taken a stats course before so it was cool to take this kind of math. I really like math and this course helped that appreciation grow even more.
 - **Intellectual Growth:** This course taught me how to remain disciplined. I really had to hold myself accountable to studying continuously and learning the material.
 - **Quality:** Professor Cipolli is a great guy. You can tell he really cares about what he does. He also cares a

lot about his students it seems like. The only thing I wasn't a huge fan of was his grading. I know he knows best, but sometimes it felt a little harsh. I got literally one part of one little question wrong on his midterm and got a B. I know A's should be "mastery", but I was so close and really got frustrated with that. I guess it was just something I wasn't used to.

Fall 2017: Section A

o Student 1

- **Reason:** pre-med
- **Effort:** I put substantial effort into this class. But it was designed so that everyone could succeed in terms of the homework as Cipolli have ample time to complete it and was flexible on deadline.
- **Understanding & Appreciation:** Made me see that it was harder than initially thought to be.
- **Intellectual Growth:** N/A
- **Quality:** I think Cipolli is a great guy and the lectures were fine, some were very interesting and others were quite dry, but that's the nature of a lecture class. What frustrated me the most was the standard grading method. As someone who studies A LOT for each and every test I found them unfair and didn't show my full knowledge. I don't in some standards from a 4 to a 2 which will really hurt my mark. Exam 3 was not comparable to the previous exams in terms of difficulty and I walked out feeling horrible. And i'm someone that had an above 95% homework average. Like I understood the material and felt like the questions were not representative. Other than the grading method I think the class is run well.

o Student 2

- **Reason:** Interest in the course material
- **Reason:** seemed interesting
- **Effort:** Lots of effort. Tough homeworks. Lots of looking over class notes to try to better understand material. Studying up to a week in advance for a test
- **Understanding & Appreciation:** It helped me know why statistics are important and how they are applicable to other areas of study.
- **Intellectual Growth:** It helped me see things from a more analytical point of view and gave me enough insight to challenge faulty statistics when i see them.
- **Quality:** Will Cipolli was a good professor. Clearly cared a lot. Talked a lot about how much effort he put into teaching. I believe him.

o Student 3

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I feel like I should've put more effort into this course, such as more time studying outside of class.
- **Understanding & Appreciation:** Learning the basics of statistics has helped me understand more thoroughly

the world around us.

- **Intellectual Growth:** believe it teaches critical thinking skills that are necessary in today's political climate.
 - **Quality:** I believe Professor Cipolli is an awesome teacher – he takes a lot of time to teach subject matter and truly cares about his students. However, the standards based grading system does not work well for me personally
- o Student 4
- **Reason:** Major or minor requirement
 - **Reason:** Core or Areas of Inquiry (distribution) requirement.
 - **Effort:** I put a significant amount of effort into this course. Between the lengthy homework assignments and frequent tests, I would say this class required the most effort out of all of my other classes this semester, some of which were at a higher level than this class. This class required extra amounts of effort because of the lesser quality of the classroom experience and the lecture. Likewise, all of the tests and assignments in this course are cumulative, necessitating a greater output of effort and studying.
 - **Understanding & Appreciation:** This course did not at all contribute to my appreciation of Statistics. It did contribute to my understanding, but marginally so, as I have only had a rudimentary knowledge of statistics from High School mathematics courses. I may have been taught new concepts and formulas, but I do not think I have gained an "understanding" to a significant degree. Many of the concepts of Statistics learned in this class remain confused and complex for me. If anything, this class has pushed me away from engaging in any math or science classes at Colgate, and has reduced my confidence and interest in math as a whole.
 - **Intellectual Growth:** This course made me rely on myself and my peers more to engage in and teach ourselves the material. I would not say this course made a significant contribution on my intellectual growth or education in any manner.
 - **Quality:** This course was taught in a very poor and disappointing fashion. I feel like this course was not described accurately in its course description. I was not aware of how the use of the computer program Cran R would be so significant to the class and important to grasping the concepts and succeeding in the course. I feel as though the use of this computer program made me more confused in the class, less confident, and learning how to use this rather complex program distracted me and many others from focusing on and learning the actual relevant subject matter. Similarly, I feel the class lectures were not intuitive and engaging, especially when taking in consideration the size of the class. Similarly, the rather obscure grading procedures instituted by the instructor made it very difficult to know how well we were doing and to know our actual grades. I will say the professor did put in genuine effort to ensuring our success, but it was not enough, and I am disappointed with this class.

○ Student 5

- **Reason:** Major or minor requirement
- **Reason:** Interest in the course material
- **Effort:** I have put a lot of effort into this course. Whenever we had homework assignments, I always made sure to finish the extra problems and ask questions about them if I didn't understand the material. Overall, this was great preparation for exams.
- **Understanding & Appreciation:** Professor Cipolli was really invested in all of his students doing well. Because he had such great expectations, and was always available if you needed help, it made me appreciate the class. Because I appreciated the class, I was devoted to learning the material to the best of my ability.
- **Intellectual Growth:** I think one of the major factors that contributed to my intellectual growth was time management. Even though I may have learned this the hard way, due to last minute scrambling to finish homework assignments, I think, overall, I've become better at managing my time in this class.
- **Quality:** I thought the quality of teaching was great. Unlike any professor I have had, Professor Cipolli was always available. I loved the Moodle board we had. We could ask any questions we wanted, and he would get back to us almost immediately.

○ Student 6

- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I completed the homework and studied for tests according to the standards that were being taught plus past standards. I worked with classmates when not understanding problems fully.
- **Understanding & Appreciation:** I learned a lot more than I thought I would in the sense that I thought it would be a basic learn the formula but Professor Cipolli taught more through examples that made me more aware of the application of this course. Even though I will not be continuing in any math courses I am happy that I took this one.
- **Intellectual Growth:** It made me more aware of how to apply this in daily life and how to read things for what they really mean.
- **Quality:** I really like the teaching style of Professor Cipolli. I had friends that took this course last semester with him and at first I was a little nervous that I was going to be in over my head but I am glad that I did take this course. I like that he removed quizzes and was open to feedback from the class. He is passionate about this area of study and it shows up in each of his classes. It was really nice to have a professor that would email us randomly with new information on studies and be excited about how to apply the material to not just STATS 105 but life. Thank you!

○ Student 7

- **Reason:** Core or Areas of Inquiry (distribution) requirement

- **Effort:** study groups
- **Understanding & Appreciation:** made me dislike the subject more
- **Intellectual Growth:** made me a more independent learning
- **Quality:** love his personality, very genuine guy. The material is rather hard. Personally I hate cran R just because it was so hard to access, However the calculations would be almost impossible if students were expected to do them by hand. Lectures are not that helpful as he can get off track with his teaching.
- Student 8
 - **Reason:** Interest in the course material
 - **Effort:** I put significant effort into this course, making sure to complete all assignments to the best of my ability and on time.
 - **Understanding & Appreciation:** I gathered an appreciation for how the course material affects our lives daily.
 - **Intellectual Growth:** It made me more engaged with current events and daily news, making me a more analytical thinker and causing me to view things in a different light than before.
 - **Quality:** The teaching quality was very high, for a lecture hall it was very interactive and interesting.
- Student 9
 - **Reason:** Major or minor requirement
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put in a lot of effort in this course to succeed and get good grades to pass the class.
 - **Intellectual Growth:** This helped me to learn more about basic statistics that actually apply in my other classes such as economics. This course made material in other classes easier to understand.
 - **Understanding & Appreciation:** This class taught me more about how to apply what I learned in class to the real world and why it is relevant material to know in today's world.
 - **Quality:** Quality: I thought the professor did a good job at teaching the material, at times it seemed a little too advanced for a basic statistics class, but overall I enjoyed the class and was able to understand the majority of the material covered in class. He did a very good job at applying everything we did to real life situations and backing up everything we did with actual research studies to demonstrate the relevance of the material we learned.
- Student 10
 - **Reason:** Elective outside major or minor
 - **Reason:** Reputation of the instructor
 - **Effort:** I put a lot of effort into the homework assignments and tests for this course. I studied well for each exam.

- **Understanding & Appreciation:** This course made me appreciate the difficulty of statistics, yet how it applies to the real world and how much we see it in our daily lives without recognition.
 - **Intellectual Growth:** This course exposed me to a whole new category of mathematics, and made me look at statistics in a whole new way.
 - **Quality:** I think Professor Cipolli is a motivating and very understanding teacher. He takes class input and convenience into consideration, even with such a large class. Although statistics can sometimes be very dry, he used relevant examples in our world right now in order to keep us tuned in. Also, he keeps his energy high which in turn keeps ours high as well. There were many resources for extra help which I greatly appreciated.
- Student 11
 - **Reason:** Other requirement
 - **Effort:** Considerable studying and practice
 - **Understanding & Appreciation:** A lot
 - **Intellectual Growth:** Growth: Important stuff to know, may want to learn quant compsci
 - **Quality:** He cares a lot. Could be better at teaching but not at the effort he puts in.
- Student 12
 - **Reason:** Interest in the course material
 - **Effort:** This class is very challenging. Many hours of studying and doing homework are needed to do well in the class. Therefore I put in a lot of effort in this class in order to understand the material.
 - **Understanding & Appreciation:** this course helped me better understand and appreciate statistics and why it is important to learn about it.
 - **Intellectual Growth:** The course has helped me increase my learning capabilities and really challenged me as a student. It has helped me stay organized and focused on school.
 - **Quality:** The Professor has a tough job trying to teach a class of 150 students but he does a great job. Many of the students are unmotivated and it's tough teaching a class that doesn't want to be taught. But he does a great job staying motivated to teach and is very clear when he introduces new topics. I think he did an excellent job teaching this semester I hope I have another class with him and recommend other students to have a class with him.
- Student 13
 - **Reason:** Major or minor requirement
 - **Reason:** Core or Areas of Inquiry(distribution) requirement
 - **Reason:** Interest in the course material
 - **Effort:** I usually study a week in advance for exams, and attend tutoring sessions if I do not understand something. I spend a lot of time on this subject.

- **Understanding & Appreciation:** This course taught me statistics much more in depth than AP statistics did in highschool.
- **Intellectual Growth:** A lot of questions in this course have to do with critical thinking, so this course helped a lot with that.
- **Quality:** Quality: I think the course is overall solid and fair, however i think that the grading system should be changed from the 1-4 on each standards. I also think that retest I'm certain standards should be offered to students who want it, not forced on every student. Because the grading is 1-4, and a small mistake will result in you getting a 3, if you get all 4s in a test the first time, the second time where the grade is weighted more heavily, even if you know the material, it is easy to make a small mistake and get a 3 and end up with the lower grade. Retesting is definitely a good idea because it encourages students to retain the information, however mixing it with the grading system of 1-4 i feel penalizes people who study really hard to get all 4s on the first test.
- o Student 14
 - **Reason:** Other requirement
 - **Reason:** Pre-med
 - **Effort:** I put a decent amount of effort into the course. Especially outside of lectures... to be honest I found statistics to be easier to learn outside of class since it's so practice based.
 - **Understanding & Appreciation:** I have a greater appreciation for probability games like roulette and cards, etc. I can see how statistics can be a valuable tool in all types of career paths. I'm glad I am better versed in these types of concepts because I can see how they are applicable to the real world.
 - **Intellectual Growth:** Growth: It helped me think more logically and more holistically. There is something to be learned from the "big picture" mentality of studying populations. More than anything, statistics has helped refine my inductive reasoning.
 - **Quality:** Quality: I think Professor Cipolli did a great job with the size of his class. I especially liked all the resources he made available to students on the moodle page. It was incredibly easy to communicate with him and he effectively fostered an environment where questions were encouraged. With that being said, I'm not quite bought into his grading technique using standards. It doesn't sit well with me that scoring a lower score on the most recent standard is more heavily graded than the next. By nature of the question type appearing twice throughout the semester, the more prepared student will keep up with the material cumulatively. I don't think its necessary to make the later one count more for that reason. There are so many reasons someone might do worse later in the semester/the next time he or she sees the question and its not directly indicative that they weren't keeping up with it.
- o Student 15

- **Reason:** Major or minor requirement
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** Interest in the course material.
 - **Effort:** Of all my classes my first semester of my freshman year, this class has been the easiest for me. Therefore I have put less effort into it than my other classes this semester. I only put a lot of effort into studying.
 - **Understanding & Appreciation:** I knew statistics was an important subject to know about, and I was interested in the subject material. This class has taught me the basics of what I need to know for statistics, and will help me later on if I ever take a more advanced statistics course. I have grown to appreciate the subject.
 - **Intellectual Growth:** This course helped me grow intellectually based on how it was designed. Although at times it was annoying and painful, having cumulative tests helped me retain the information a lot better, and I enjoyed the standard method of grading to a degree.
 - **Quality:** Quality: Professor Cipolli did a fantastic job teaching this course. The only qualm I have is about the grading system, specifically the two try method. It would be so much better and a lot less stressful if the better of the two tries was recorded as the final score, instead of the second try being weighted so heavily. On multiple occasions I was negatively impacted by this grading system, as I would get 4s on standards the first time and then 2s the second time. This was not because of me forgetting the material, but rather the question being a different style and tripping me up. Overall I very much enjoyed the class and appreciated Professor Cipolli's teaching style.
- o Student 16
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put a fair amount of effort into this course. It wasn't the type of class where I have to study every night, but the course becomes most rigorous when we are getting closer to homework due dates or exams.
 - **Understanding & Appreciation:** Though I had taken a statistics class in high school, this class forced me to look at statistics from a new angle and contributed to everything I know about statistics today.
 - **Intellectual Growth:** Beyond the math of this class, this class has contributed to my overall ability, as a consumer of news, to dig deeper when a news outlet tells us about a statistical study. I know think critically about the polling techniques used in media today.
 - **Quality:** Quality: Professor Cipolli was a good lecturer day by day. However, when he tried to explain things further or answer a question, sometimes he used the same terms he had been using to describe the subject initially, and didn't fully help us understand the topic. His standard-based grading system was confusing and I wished he had taken our interest in understanding the system more seriously. Although, the system

did promote a deeper understanding of topics because it gave us two attempts at a particular standard. I also found his slides very easy to understand and were instrumental in studying. I found his lectures easy to understand and straightforward for those of us who weren't very interested in math.

○ Student 17

- **Reason:** Major or minor requirement
- **Reason:** Interest in the course material
- **Effort:** I spent approximately 2.5 hours on each of the homework assignments for the course. I spent approximately 7 hours studying for each exam.
- **Understanding & Appreciation:** This course deepened the knowledge of statistics I had acquired in high school.
- **Intellectual Growth:** The writing assignment helped me think about statistics not from a purely mathematical standpoint. This assignment also detailed for me the structure of a scientific paper.
- **Quality:** I think the quality of teaching in this course is high. Professor answers any and all questions from students and tries to fully explain the course material.

○ Student 18

- **Reason:** Exploration of possible major or minor
- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Reason:** He is very accessible in that if we ask a question on the Moodle page he answers the question almost within the hour.
- **Effort:** I did almost all the diagnostics at the end of each week and started the homework about 4-7 days before the due date.
- **Understanding & Appreciation:** Appreciation: I never took stats before taking this class and Cipolli made the course subjects very clear and understandable for me as well as everyone else in the same boat as I was.
- **Intellectual Growth:** For this intro stats class, Cipolli had us use R code, which I personally probably would never have used in my life. However, using R allowed me to see a little bit of the basis of computer science major and department, which I thought was rather interesting. It also showed me the use of coding.
- **Quality:** I believe that Cipolli wants the best for his students and pushes us to do what we are capable of doing. I felt that one of the weaknesses was that homework would sometimes be long and redundant, and often times the questions involving R-coding would be rather hard. Other than that, his grading style is rather clear and understandable, which I think is a strength.

○ Student 19

- **Reason:** Exploration of possible major or minor
- **Reason:** Interest in the course material

- **Effort:** Effort: I normally reviewed my notes after every class and completed the homework problems a handful of days before the due date. Towards the end of the semester, I could have done this much more efficiently, but I tried to continue this work ethic throughout.
 - **Understanding & Appreciation:** This course expanded my conceptual and theoretical thinking of mathematics as a whole and caused me to appreciate the way studies are done by using statistics.
 - **Intellectual Growth:** This course fostered some intellectual growth beyond the world of statistics by teaching me ways to think about any type of problem and coming up with a solution. By considering every aspect of a problem, the solution does not have to be conventional yet requires you to sometimes think outside the box.
 - **Quality:** The quality of teaching in this course represented the ideal for all Colgate professors in how this professor was a constant resource for the students, used technology for the class as a whole to communicate and receive feedback, and allowed every student the opportunity to reach their full potential whether in class or on homework problems.
- Student 20
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I have put so much effort into this class. I will literally study FOREVER before tests and I spend so long doing the homework (also given I work kind of slow).
 - **Understanding & Appreciation:** I really have learned a lot and have a larger appreciation for this subject material. Professor Cipolli presents the material in a really interesting that gives you an appreciation for the course material.
 - **Intellectual Growth:** Professor Cipolli does a really good job of showing you how the things that you learn applies to things in the real world. This course has helped me to appreciate how this material can be interpreted and used and specially how to understand statistics when confronted with them (especially in the media).
 - **Quality:** Quality: I think professor Cipolli is a great professor!! I think he's very fair and very patient (even with a class that has 1/7 of all of colgate students). He present information in a very interesting and helpful way. He makes a point to learn student names even with such a large class size and he makes himself available to students, making time for the huge number of students he has. His way of grading is a little confusing, but it seems fair. He speaks loudly and very clearly. The course material is very hard but I think he does a good job of presenting it. Professor Cipolli is a great professor.
- Student 21
- **Reason:** Elective outside major or minor
 - **Reason:** I thought that a good basic knowledge of statistics would be useful going forward for all the fields I am considering.

- **Effort:** I put some effort into this class, I did all the practice problems for tests, and completed all homework and extra credit but this course did not require the hours of extra work that some of my other courses did which I really appreciate!
 - **Understanding & Appreciation:** It helped me understand what commonly referenced statistics actually mean which was interesting. Overall the examples were the most interesting part of the class.
 - **Intellectual Growth:** I think the probability chapter will help me in assignments for my major (computer science) courses.
 - **Quality:** He was a really good professor, super attentive to student needs etc. I think the class could have benefited from more practice problems done in class but I can understand how that it is difficult with so many students. Also he seems stressed a lot which is understandable
- Student 22
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** This course required a good amount of effort in preparing for exams and finishing homework.
 - **Understanding & Appreciation:** This course has made me rethink the statistics that are portrayed and often skewed by the media. I think this is especially important in today's culture and has allowed me to be better informed on contemporary issues.
 - **Intellectual Growth:** This course required me to adjust my learning capabilities for the first time in a larger class setting. I have never been a class this large and think that because of the size of the class, I had to take more of my learning into my own hands.
 - **Quality:** Professor Cipolli's attention to student feedback and genuine concern with the classes grasp for the material was something remarkable. I have no idea how he dealt with all of our classes input and still managed the course in a more timely manner than any of my other professors. Although there were areas of class where I would get distracted or lost in the slides (this is merely because of the class size), I think that Prof. Cipolli's concern with our classes understanding and intellectual growth will be hard to match from any other professor I take at Colgate.
- Student 23
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I did all of the homework assignments on time and I made sure to engage myself in class and to prepare well for tests, etc.
 - **Understanding & Appreciation:** I was able to understand the course material very well through engaging myself with the topics covered and by delving into the subjects we discussed.
 - **Intellectual Growth:** This course benefited me by testing my ability to organize myself and to think critically and analytically about the different topics.

- **Quality:** I liked the amount of organization and thought put into designing this course , and I thought the notes provided and the slides were crucial to my understanding the different topics covered.
- Student 24
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** Reputation of the instructor
 - **Reason:** Interest in the course material
 - **Effort:** I have put forth a good effort in this class trying hard on the homeworks, exams, and writing assignment.
 - **Understanding & Appreciation:** I really like how this course applies to the real world
 - **Intellectual Growth:** I understand more about how the real world polls and statistical news stories work.
 - **Quality:** I think the quality of teaching was excellent. It is hard to teach a math course in lecture format, and it was done very well with tutoring and extra hours as ways to clarify something if it was unclear.
- Student 25
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** I think it is great that we retest teach standard twice. But, I think each try should be worth 50% of each overall standard grade. Not the 15% the first time and 85% the second time.
 - **Effort:** I went to almost all the nightly tutoring sessions on Tuesdays and Thursdays. Went to all office hours when I had questions or wanted to do practice problems. Never missed a class, and sit in front row.
 - **Understanding & Appreciation:** My understanding has definitely improved substantially I think because we get tested twice on each
 - **Intellectual Growth:** I want to go into government policy for a career field. I think that by understanding now how to get a thorough interpretation of what a poll is really saying about a candidate applies to my interests.
 - **Quality:** Quality: I think the quality of teaching is very good. The things I like is there are two sessions a week to attend to with questions for a TA, we have class notes to access for reference and following the class, and we get two chances on each standard. The weak part I see is Professor's availability. He only has office hours, but rather than that, it is unlikely to set up a chance to meet.
- Student 26
 - **Reason:** Other requirement
 - **Reason:** Interest in the course material
 - **Effort:** A lot. Did the extra homework to prepare for the tests, rewrote my notes from previous classes to

make them into a useable study guide.

- **Understanding & Appreciation:** Gave me a bit of an introduction to R, so that's nice since I've ended up using it for other things outside of class. Other than that I think that it gave me a good foundation for statistics and a better understanding of what makes a statistic.
 - **Intellectual Growth:** It's given me reasons beyond general cynicism to be skeptical of numbers and a few ways to think about their significance.
 - **Quality:** It was pretty high I think. The instructor did a very good job at explaining things and was very open to questions from students to clarify or to explain concepts again in a different way.
- Student 27
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** I am a senior and needed a natural science/ math course to fulfill a graduation requirement
 - **Reason:** All of the natural science courses were filled and taking a math course was the only option I had.
 - **Effort:** I have dedicated many hours to this course to complete homework, diagnostics, tutoring, and exams outside of class. I log in to the class moodle page daily news review notes and our class discussion board.
 - **Understanding & Appreciation:** I hadn't taken a math course since I was in high school. I definitely appreciate feeling like I am able to understand vocabulary and be equipped to understand how statistics are used to describe data. I am interested in many of the applications of statistics outside of this course. I am interested in researching processes and outcomes of education and this course will help me with future social science research. I am also interested in journalism and current events, and this course helped me learn how interpret statistics that are presented in the news.
 - **Intellectual Growth:** I realized that I am more capable than I allow myself to think I am and that I am able to be my best when I reach out for help.
 - **Quality:** Professor Cipolli is a great educator. He cares deeply about the students, and he wants us to understand the material and to succeed in the class. He is an effective communicator and describes concepts clearly and concisely. He has taken time to write chapter notes for us so we didn't have to purchase the text book or search for what was important. He is clear about expectations, and works with us to set deadlines that are reasonable. I appreciated the weekly student diagnostics that allowed us to give feedback, ask questions and make any comments that we would like. I wish more professors would offer that as an option. I also appreciated his pedagogical note in the syllabus that described why he used the grading system that he does. I was challenged in this course and I learned more about statistics than I feel that I could have with other systems of grading.
- Student 28
- **Reason:** Major or minor requirement

- **Reason:** Economics major
 - **Effort:** This course is pretty rigorous. You have to put a good deal of effort into the homework and tests, but it is very possible to do well in the class if you put the time in.
 - **Understanding & Appreciation:** I think this course gave me more appreciation for this subject and its importance in the media. Professor Cipolli's real world examples help with this.
 - **Intellectual Growth:** It helped with time management. Also the standards forced me to really retain information since anything we learned throughout the semester could come up on any test.
 - **Quality:** Professor Cipolli is a great professor. He is very intelligent and explains the course material in a clear and interesting way. He is also always finding new ways to portray the information to make it more understandable for different styles of learners . He was always available when needed for questions or help. I really enjoyed him as a professor.
- o Student 29
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** In order to succeed in this course, I felt I had to put in a good amount of work. I had to read over the notes and the slides to fully grasp the concepts and the professor's use of standards forced me to study all the course material before exams and remember things I likely would have forgotten otherwise.
 - **Understanding & Appreciation:** This course gave me a new appreciation for statistics. Before this course I had of course been exposed to statistics and statistical analysis, but I never truly understood how to interpret them or grasp the information they were giving. Now, I understand more about statistics than I thought I ever would and I appreciate how useful statistical analysis can be.
 - **Intellectual Growth:** Statistics are everywhere, and while I had at least a working understanding of them before I took this course, I feel I now have a much deeper understanding of how to interpret them. Due to the prevalence of graphs and statistics in most other subjects, the knowledge I gained from this course will doubtlessly be useful in better understanding data and statistics in other courses and in other aspects of life.
 - **Quality:** felt the lectures were especially effective and it was obvious that there was a great deal of work put into creating lectures and slides that would facilitate the learning of the material. The professor would always take into account the opinions of the class, which I very much appreciated. The ability to ask questions through Moodle was also very nice, and being able to see what questions other students had was very useful, and I'm sure cut down on the number of repeat questions. The use of standards, while sometimes frustrating, was effective in forcing me to remember material from earlier in the course. Overall, the class was very well taught and I appreciate the effort that was put into the teaching of it.
 - o Student 30
 - **Reason:** Core or Areas of Inquiry (distribution) requirement.

- **Effort:** Completed hw multiple days in advance and studied days before exams due to cumulative nature of class.
- **Understanding & Appreciation:** N/A
- **Intellectual Growth:** N/A
- **Quality:** N/A
- Student 31
 - **Reason:** Major or minor requirement
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** I took this class to fulfill a distribution requirement and because I felt it would be useful to have an understanding about statistics in my career.
 - **Effort:** I put a lot of effort into this class which included doing additional problems on my own , going to office hours, going to the tutoring sessions and making sure that I completed all assignments on time. I also made sure to ask questions when I did not understand something.
 - **Understanding & Appreciation:** now appreciate polls that are properly displayed in the news and have a strong sense of why statistics are valuable and how they influence the world around us and how they can identify and solve issues.
 - **Intellectual Growth:** This course has taught me resilience and persistence. The material was just challenging enough that I could make an effort to understand it and in turn succeed. I feel encouraged to run towards things that I do not understand until running away from them.
 - **Quality:** Professor Cipolli has been hands down the best professor I have ever had at Colgate and I could not say enough good things about him and his teaching. He is the epitome of a great teacher. Professor Cipolli truly cares about all of his students and their well-being. He let the class determine the pace of the course and slowed down and spent more time on things that we didn't understand. At the same time, he was humble enough to admit when he was wrong and messed something up and always made amends for it. One major strength Professor Cipolli also had was always making himself available through moodle postings (where he probably answered over 200 questions), diagnostics, and extra appointments and meetings outside of class. The effort that he put in to helping his students understand the material was outstanding. Due to Professor Cipolli, I looked forward to going to class, studying and working on statistics and I by no means consider myself to be a math oriented individual. If he does not have tenure yet, I wholeheartedly believe he deserves it. 10/10.
- Student 32
 - **Reason:** Major or minor requirement
 - **Effort:** I put a lot of effort in this course. Started hw early went to get help, made study guides and flash

cards for exams went to review sessions.

- **Understanding & Appreciation:** I think it advanced my knowledge of the course.
 - **Intellectual Growth:** Time management, studying through out the semester on everything we have learned rather than just what was new-should create an easier time studying for final exams
 - **Quality:** I think the teaching was very good, he was clear and concise, very approachable and helpful in office hours. I do like the grading system and it's purupose but I think the only thing I would change is rather than a significantly more amount of weight on your second time seeing the standard it should be an average of both- this facilitates his goal of continually studying but doesn't significantly hurt your grade if you do significantly worse on he second one
- o Student 33
- **Reason:** Major or minor requirement
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** Because every test within this class was cumulative, this required a larger amount of studying than would have been necessary if it was only covering recent material. Therefore, it was necessary to begin to study greatly in advance. Further, the homework sets were long and extensive, and typically quite challenging, and therefore I was required to put in a large amount of effort, many days in advance, when it came to these assignments as well.
 - **Understanding & Appreciation:** I have become more cognizant about how often I use statistics and terms I have learned within statistics, particularly within other class I was enrolled in this semester
 - **Intellectual Growth:** This course, through presenting a very different way of grading called "standards" challenged me to not only learn information for tests but retain this information, due to the fact that the tests were cumulative and material was weighted much heavier when we were tested on it the second time.
 - **Quality:** This course is structured in a very difficult, hard-to-comprehend manner due to the fact that it is graded via standards. Being tested on material a second time and having it weigh 85% as opposed to only 15% seemed to eliminate the purpose of these standards, for the second one was generally make-or-break, and the testing on the first standard didn't seem to matter at all. Therefore, earlier tests counted much less, leaving students panicking and scrambling when taking those in which material is being looked at a second time, for, even though you could've done very well on the first test, it will not significantly impact your overall grade in the class
- o Student 34
- **Reason:** Major or minor requirement.
 - **Effort:** I put a large amount of effort into the class starting homeworks and studying for tests three to five days before these things were due. I also went to several office hours and took time to go to the tutoring

sessions.

- **Understanding & Appreciation:** It helped my understanding of statistics in that I didn't have any experience with the statistics that we have thus far paid attention to. No comment on my appreciation.
 - **Intellectual Growth:** Caused me to think better about certain problems I faced and allowed me to know when to accept that things would just simply be out of my control.
 - **Quality:** There were definitely a lot of strengths in professor Cipolli's teaching. He kept the attention of this huge 150 person class and also wanted people to give him feedback so he could then improve the course. I think the only weakness I would note are certain unrealistic expectations. I feel like professor Cipolli expects each student to gain and achieve a lot from this large introductory course. His standards based grading are meant to produce long lasting learning, I just felt like certain areas of the course (such as combinations and permutations and probability) didn't at all fit in with the rest of the subject matter and that the course could have been taught without this additional confusion of these two topics.
- o Student 35
- **Reason:** Major or minor requirement
 - **Reason:** Other requirement
 - **Reason:** Interest in the course material.
 - **Effort:** I put a good amount of effort into this course. Problem sets and studying worked out to about 1.5 hours of homework per class.
 - **Understanding & Appreciation:** This course has been very interesting and I have gained a better understanding of statistics and the representation and summarization of information.
 - **Intellectual Growth:** Topics from this course can be applied to almost any subject and frequently comes up in daily life while looking at information presented to you. Statistics are everywhere and this course has given me a basic understanding of how to interpret them.
 - **Quality:** Professor Cipolli did a great job teaching this course. I appreciate the challenge that is teaching a class this large. I have taken a fair number of large lectures at Colgate and this was by far the most engaging one. If all lectures were taught like this I wouldn't hate them so much! Professor Cipolli gave countless chances to provide feedback and help steer how the course is going. Standards, although confusing at first, seem to do a good job promoting lifelong learning. The only suggestion I have is to make the first attempt at the standards worth a higher percent. Professor Cipolli was very accessible considering the class size and made an effort to get to know the students. Course materials were relevant and showed how statistics can be applied to daily life. Professor Cipolli does a great job with this class!
- o Student 36
- **Reason:** Elective outside major or minor

- **Reason:** Interest in the course material
 - **Reason:** I intend to go into the health field, so I thought that a background in statistics might be useful.
 - **Effort:** put in adequate effort. This was an introductory course so it did not require much effort, in my opinion. The homework assignments required the most work but we had ample time to complete them.
 - **Understanding & Appreciation:** I now have a greater understanding of statistics and how statistics represent the world we live in.
 - **Intellectual Growth:** Outside of this course, I am better able to understand how people may or may not be able to manipulate statistics in order to portray what they want to. Statistics can be presented in so many different ways, and now that I am aware of this I can differentiate between biased and reliable sources of information.
 - **Quality:** Prof. Cipolli was a great lecturer. He constantly was asking the class questions and keeping us intrigued, and given the fact that there were upwards of 150 or so students I was very impressed. He always made himself available, and you could tell that he genuinely wanted us to learn something from this course. The standards concept of testing was annoying because it forced you to review everything you had previously learned, but in the end I gained a deeper and more lasting knowledge of the course material because of it. Basically, he was right about everything and I'm glad I took this course. He taught us a lot of life lessons too that I will think back to from time to time. I would recommend him as a professor to anyone taking Intro to Stats.
- Student 37
- **Reason:** Exploration of possible major or minor
 - **Reason:** Reputation of the instructor
 - **Reason:** Interest in the course material.
 - **Reason:** I had heard that it was a good class and I was interested in the material.
 - I thought statistics would be a good subject to have an understanding of no matter the major I choose.
 - **Effort:** I put a lot of effort into this class. I attended almost every lecture, asked questions, and visited the professor's office hours. I worked diligently on the homework assignments, completed the extra problems, and reviewed my materials for the exams.
 - **Understanding & Appreciation:** This course gave me a greater appreciation for the course material. I already knew that statistics was an important and complex part of academia and life, but this course showed me just how important it is and how misleading it can be.
 - **Intellectual Growth:** This course helped me learn how to analyze statistics and has made me a more cautious consumer of data. I enjoy psychology and this basic understanding of statistics will come in handy when analyzing psychological data.

- **Quality:** I think this professor really cares about the success of his students. He allows us to reach out with questions and allows us to have a say in the structure of the course. He tries to make the class interesting and relevant to daily life by including real-world examples in his slides
- Student 38
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I would typically spend a few hours on each homework assignment. I came to class and took notes, but generally did not need to study hard for anything.
 - **Understanding & Appreciation:** I use stats in Econ, so this class was helpful for my comprehension.
 - **Intellectual Growth:** I think that stats is a very practical course for both at Colgate and beyond.
 - **Quality:** I think the teaching level was very high. If anything the quality was too high as the professor would be running ragged at times. Most other teachers are much lazier when it comes to class preparation.
- Student 39
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** Given that I took AP stats in high school, the most difficult part of this course recalling some of previous material, learning new material covered in this course, and learning how to use R instead of a graphing calculator.
 - **Understanding & Appreciation:** Although I have always found statistics to be extremely useful and interesting, the course has provided even greater insight for me into statistics and data collection. I can now read studies with much greater understanding of the language and terminology
 - **Intellectual Growth:** I was forced to use computer coding/R to complete the course. Although I have a strong dislike of it, it is useful that I have gained some understanding of how code works, however small that understanding is.
 - **Quality:** Cipolli really does try his best to be the best professor he can be for a course of this size. He is great at explaining the lectures in the simplest way possible. The only wish i have is that he can provide more short summaries of the material covered in the chapters, as the wording can often be overly complicated and confuse students.
- Student 40
 - **Reason:** Core or Areas of Inquiry (distribution) requirement. I was going to take Psych 150 so I could get the natural science requirement but then I got scared that I would fail and therefore be unable to graduate, so I decided to take this class instead. It is my first math class in five years.
 - **Effort:** I put in a lot effort. I went to every class session, took notes, listened, and asked questions. I spent

hours on each home, went to a few tutoring sessions and office hours, and studied a lot for the exams. I put much effort into the writing assignment also. I used the moodle board and met with peers outside of class very regularly

- **Understanding & Appreciation:** now know much more about statistics than prior. From day one when he was saying why some statistic about shooting was "the worst social statistic in history," I had no idea why it was a bad statistic. Now I do. The class has helped me to understand statistical inference and also some math parts moving from a sample statistic to a population parameter. I am confident heading into the final exam
 - **Intellectual Growth:** I had to use learning methods that I haven't used since high school, I had to remember how to "study" which I haven't had to do in such a long time because my other classes only have essays. I had to learn to ask questions about what I don't understand and ask for help in vulnerability, which I haven't had to do in other classes
 - **Quality:** Cipolli is really fantastic. He was super present and available to us over Moodle, email, and office hours as well as always responding to questions in class. He was clearly super focused on class achievement and encouraging us to really learn the material (which I did, against my will even because of the standards grading model which forces cumulative thinking). I liked the grading system but I also got a good grade so if I didn't get a good grade I probably wouldn't have liked it. The grading system did encourage me to learn far more than other class systems
- o Student 41
- **Reason:** Major or minor requirement
 - **Effort:** I worked decently hard by studying for tests and doing homework assignments, but I never felt overwhelmed after seriously focusing in on my work.
 - **Understanding & Appreciation:** Yes it did as I see stats used day to day now and appreciate it much more.
 - **Intellectual Growth:** I think it makes you think more analytically.
 - **Quality:** I think the professor is very accessible, clearly in knowledgeable, and makes the best effort out of any teacher I've ever had to truly benefit and help the students. His only weakness is due to the size of the class, such as class participation/discussion which is out of his control as it is an intro level.
- o Student 42
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** N/A
 - **Understanding & Appreciation:** N/A
 - **Intellectual Growth:** N/A

- **Quality:** N/A
- Student 43
 - **Reason:** Exploration of possible major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I put in a fair amount of effort to this course. I completed all homework assignments before the due date and went to class on a regular basis
 - **Understanding & Appreciation:** I now have a better understanding for how statistics can help in daily lives whether it is a news report or political poll.
 - **Intellectual Growth:** This course helped me to look beyond the "facts". Some "facts" presented to us may actually not be completely true and if you use statistics, you can get a confidence interval that shows a range of numbers rather than just one
 - **Quality:** Professor Cipolli did an excellent job presenting class material in a clear and orderly manner. He is always prepared for class and is able to clearly answer any question a student has. The one area in which I think he could improve in is feedback on tests. I am still confused how my exam grade is determined and do not particularly like how we do not get a percentage on our exams so I am not completely sure how I am doing in the course
- Student 44
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** put a considerable amount of effort into this course. I always tried my best to finish assignments ahead of time and complete all the diagnostics. I studied hard and my attendance was stellar.
 - **Understanding & Appreciation:** This course contributed to my understanding and appreciation of the course because i have never taken a statistics class before and didn't realize how complex they were. I was anticipating this class to be easier than it was, so now I appreciate how much complexity there is to statistics.
 - **Intellectual Growth:** This course challenged me far beyond what I expected. I learned new ways to apply math and really think about what the question is asking.
 - **Quality:** Professor Cipolli was one of the best professors I have had here. He is very captivating to listen to, explains the material in a way that mostly everyone can understand, he's extremely available for help, and wants all his students to succeed. He is great.
- Student 45
 - **Reason:** Major or minor requirement
 - **Effort:** had to put a lot of effort into the homework assignments which required me to start a week before the due date. I also looked back into my AP Stats book and watched online videos when I didn't or had trouble with the course material. I also made really dense study guides prior to every exam.

- **Understanding & Appreciation:** I actually like the course – AP Statistics didn't fit into my schedule as a high school student and I was interested in taking math classes at Colgate, and this class in particular was a requirement.
- **Intellectual Growth:** A lot of what we've learned applies to real-world every day events
- **Quality:** Honestly a lot of times I felt confused or unprepared for that the tests wouldn't reflect much of what we had in the homework. I thought that the homework would help us prepare but the majority of it really seemed to never have anything to do with the tests. Also, I never use the notes to help with the homework because Ive found that it is only slightly helpful when in lecture
- Student 46
 - **Reason:** Interest in the course material
 - **Effort:** It is on me. I failed to pay attention in a lecture class. At times I would feel intimidated to respond in class. And then R-code was difficult in the beginning so anything about r-code flew through my head–I don't feel like I have mastered the concepts.
 - **Understanding & Appreciation:** As a psychology major I am preparing myself for the quantitative side of research.
 - **Intellectual Growth:** Most importantly, I have started to question research and how researchers form a conclusion based on the data available.
 - **Quality:** N/A
- Student 47
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put a lot of effort into this course, took time to study, finished homework assignments in order to push myself and get good results
 - **Understanding & Appreciation:** This course has taught me a lot, I now understanding many topics I didn't know about before. I also enjoyed the course
 - **Intellectual Growth:** This course taught me to understand the material rather than learning it. I am ready to apply my knowledge outside of this course
 - **Quality:** I think that the material covered was sometimes too advanced for this intro class. However, the professor made it easy for students to voice their concerns and he was very open to our opinion. He knows the material and is able to teach it properly
- Student 48
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I put a lot of effort into this course. The fact that students have normally a few weeks to complete

the homework allows me to go to tutoring hours when I don't understand something. I also had to study previously learned material for tests because of the professor's standards style of grading which I like.

- **Understanding & Appreciation:** The professor obviously loves this subject so his passion for it made learning the material more enjoyable. He explained topics in multiple ways in order for everyone to understand. If I didn't understand a topic, help was very accessible through the professor directly or the frequent tutoring sessions. The style of grading also encouraged me to retain information from the beginning of the year that I would have otherwise forgotten.
 - **Intellectual Growth:** learned more about time management from this course because the homework is usually due within a few weeks of when it is assigned. This encouraged me to start it early so that it would not be overwhelming and so that I could go to tutors if I was stuck on something
 - **Quality:** I think that Professor Cipolli is an amazing professor. He made one of my least favorite subjects enjoyable and understandable. While some of the notes can seem overwhelming, the numerous examples he provides are helpful. I really appreciate the diagnostics and moodle discussion board as a way to find answers to questions I didn't even know I had. He is great at making sure everyone understands the material and will go above and beyond to do so. I really enjoyed his class this semester
- o Student 49
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I put in effort by doing the assigned work, extra problems, asking questions, and going to the review sessions.
 - **Understanding & Appreciation:** I did not have much experience with statistics before taking this class. I learned a lot about statistics and the way they are calculated.
 - **Intellectual Growth:** By doing the writing assignment, I learned more about preparing essays and doing work that does not have clear instructions.
 - **Quality:** Professor Cipolli was a good professor who is passionate about statistics and teacher. I think the class should have relied less on R. I still don't feel comfortable using it and question its usefulness outside of the classroom.
 - o Student 50
 - **Reason:** Interest in the course material
 - **Effort:** I put a good amount of effort in this course. This entailed reading the notes and slides, doing longer homeworks, and studying for the cumulative tests we have.
 - **Understanding & Appreciation:** I think this course definitely improved my understanding of statistics and it also heightened my interest in it because of the great job professor cipolli did in relation four lectures to

real world situations

- **Intellectual Growth:** I think this course helped me get a broader view on statistics in the world and their presence in the media which helps me better understand relations that can be important in other classes
- **Quality:** His strengths are that he is very interesting during lecture and does a good job of making a PowerPoint type lecture fathomable. He also has a very well organized class page in moodle which I know helps me and my peers greatly. As far as his weaknesses, I think sometimes when he uses code to write the homeworks and assignments, it often gets typos so that we cant actually do it unless we search to see if there is something wrong on the class page.
- Student 51
 - **Reason:** Major or minor requirement
 - **Effort:** I ws challenged by the course but the homework and extra problems helped tremendously
 - **Understanding & Appreciation:** I understand much more about the subject through the course material and homework.
 - **Intellectual Growth:** I now understand the importance of providing accurate information through statistics.
 - **Quality:** The lectures were very thoughtful and informative. The teaching style was easy to follow and clear.
- Student 52
 - **Reason:** Major or minor requirement
 - **Effort:** think my effort was fairly average, this resulting a grade that will be fair. I attended class, and studied for the exams.
 - **Understanding & Appreciation:** think that this course made me realize that statistics is not something I'm interested in pursuing.
 - **Intellectual Growth:** I feel more knowledgeable of how and where stats comes from which is good for conceptual learning and life.
 - **Quality:** I think that there are strengths with the professor's teaching methods, but there are also weaknesses. I think that the grading system was understandable and helpful. However I think that there was a sense of disorganization when it came to exams. There were opportunities to redeem our grades, but on exams there were some mistakes that weren't acceptable. The professor was accessible out of class, and it is my fault for not utilizing office hours more. However I believe that others who put in immense effort would agree about the errors/organization. The workload was manageable, and I think the course could be improved with more clear exams. The other aspects were well done and Professor Cipolli did a good job for the amount of students he had to address. Thank you.
- Student 53
 - **Reason:** Core or Areas of Inquiry (distribution) requirement.

- **Effort:** I completed all coursework on time. I spent a lot of time doing the homeworks and the extra problems. Additionally, I filled out every diagnostic and completed the writing assignment. I studied for tests by using the powerpoint slides and the extra problems.
 - **Understanding & Appreciation:** I took a statistics class in high school, but this course went further and helped me to understand some concepts that I either didn't understand or wasn't taught in high school. It also helped me to understand that I should be wary of news outlets and other sources when they talk about statistics.
 - **Intellectual Growth:** This course helped me to improve my time management skills and to think about things critically.
 - **Quality:** I really appreciated having the powerpoint slides, the notes, and the q&a form on Moodle. I didn't feel rushed in taking down notes. I also enjoyed working on problems in class, because it helped me to apply concepts we learned in class to the homework
- Student 54
- **Reason:** Major or minor requirement
 - **Reason:** Exploration of possible major or minor
 - **Reason:** I took this course as a requirement for Economics major
 - **Effort:** I have taken a statistics class before but felt that I did not understand the material that well back then. For this class I put in a lot of effort to relearn the material of the past.
 - **Understanding & Appreciation:** I felt that this course was a good refresher of knowledge that I had forgotten from my previous course.
 - **Intellectual Growth:** I had to remember formulas and methods from previous statistics courses in order to do the problems and tests in this class.
 - **Quality:** Prof. Cipolli is a wonderful teacher of the material and when responding to our questions and inquiries. He tries to inspire a classroom discussion, but with the lecture style of the course he sort of expects people to respond and sound out their ideas on a topic. Sometimes this is successful but most often it ends in a silent room. Overall, an excellent instructor of the concepts and moderately inspirational in terms of student discussion in class
- Student 55
- **Reason:** Major or minor requirement
 - **Reason:** Exploration of possible major or minor
 - **Effort:** Not as much as I should have but before tests I would study mainly 1-2 days before
 - **Understanding & Appreciation:** It's difficult and I don't really like the subject, however I do understand a lot about certain topics in the subject.

- **Intellectual Growth:** It helps be think about how polls especially elections are calculated. The process is very difficult, yet interesting.
 - **Quality:** The quality of teaching was great. He really cared about the students and whenever a question was asked he answered it in a way until the student would understand.
- Student 56
- **Reason:** Major or minor requirement
 - **Reason:** Exploration of possible major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I put in a decent amount of effort into the course. It is very easy to access extra problems and have other resources available to further my studies in every topic covered. I probably spent more than 10 hours of studying weekly.
 - **Understanding & Appreciation:** There were so many examples where real life issues were used and that helped relate what I already know into the course material. The lecture slides and the diagnostic made it very easy to reflect and review what has been learned so that the transition from one topic to the next was very smooth, and this was also beneficial for exams, as they are mostly cumulative.
 - **Intellectual Growth:** The translation of language, from a formula to english, helped tremendously as I feel that I am much stronger at understanding complex formulas and symbol meanings. Professor Cipolli placed a large focus on this matter and I think it tremendously helped my intellectual growth.
 - **Quality:** I was honestly blown away by the amount of time and effort Professor Cipolli seemed to put into our class . He always ensured that everyones needs were accommodated and questions answered. I can easily say that he was has been the most willing out of all my professors to make the effort for every student's success. The notes provided are very thorough and in depth, and the extra opportunities for further studying giving on each homework proved to be tremendously helpful.
- Student 57
- **Reason:** Interest in the course material
 - **Effort:** I would give myself a few days for the homework so that if I had questions I could go to office hours . I studied for all the exams and did all the extra opportunity questions so I could see what I needed to look back at in the notes.
 - **Understanding & Appreciation:** I took the class because I was considering an econ major/minor. While that is no longer of interest to me I am still really good I took this class because it was right up my ally subject wise and I'm hoping that maybe I'll be able to take more similar classes in the future.
 - **Intellectual Growth:** Since the homework was always posted in pdf form I was more motivated to print it out and work on it piece by piece over time. This definitely helped me with time management.

- **Quality:** I thought Professor Cipolli did a really good job of keeping everyone engaged. The diagnostics were a good touch to allow for additional comments and extra credit. However, I personally feel that if people eliminated themselves from being considered for extra credit because they didn't fill out enough diagnostics then there shouldn't have been another extra credit opportunity given, it was made clear at the beginning what the requirements were. Also, while the moodle board was incredibly helpful, I was definitely hesitant to post at first and I am sure there are students who were hesitant to post at all. I was hesitant because of how public it is and would have liked if I could have emailed Professor Cipolli with my questions until I felt I was comfortable with posting it on moodle.
- o Student 58
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put maximum effort into this course. Like a couple other subjects, mathematical statistics is an area you cannot afford to fall behind. Every week, I was either attending tutoring sessions or looking at my notes to constantly review and stay caught up with the material from class.
 - **Understanding & Appreciation:** My understanding for this course increased drastically. Additionally, it made me appreciate the course subject even more. Coming into Colgate I knew I was not keen on taking science/math classes since that was not what I wanted to deal with later in life. However, 105 allowed me to appreciate math even more especially statistics.
 - **Intellectual Growth:** Intellectually, I have seen a major growth in my ability to calculate numbers and recognize math in the real world. I am constantly finding examples in the real world that correlate with the subject matter we learned in class.
 - **Quality:** Professor Cipolli is fantastic. In a class of 100+ students he is able to cater to each individuals' needs by making himself accessible. He works tirelessly to make sure we understand the material and we do well. He motivates me every class to listen and take good notes allowing me to understand what is going on. He is constantly answering questions on his board he created on Moodle, he always makes space for extra office hours, and he sets up weekly tutoring hours with two other upperclassmen. I appreciate every single effort Professor Cipolli makes to ensure the best learning environment for his students .
- o Student 59
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** To succeed in this class I attended every lecture and took diligent notes. I completed all of the homework problems and most of the practice problems. I reviewed my notes and practice problems and lecture slides to prepare for the exams. I have not attended any of the additional tutoring sessions.
 - **Understanding & Appreciation:** Prior to taking this course I had never studied statistics or critically thought about them when I was presented with statistics in the news. While this course effectively taught

me a great deal of math and of general understanding for how to calculate statistics, what I think the most important take-away I have gained from this course is the ability to understand and think about the statistics presented in the news and how those numbers may be presented more honestly

- **Intellectual Growth:** I am not a student who has taken many math courses and I took this course because I needed to fulfill a requirement. That being said, I really appreciate being in classes that challenge me in fields I do not take many classes in. I think that it forces me to study harder and find the most effective study tools for me. This course really pushed me to avoid procrastination and to find study tools that would promote long-lasting learning.
- **Quality:** Professor Cipolli is amazing. It is clear from day 1 of this course that he cares so much about his students and wants to work with each and every one of us to make this course understandable and digestible. He really listens to the feedback of his students and changes the course to best fit our needs.
- o Student 60
 - **Reason:** Major or minor requirement
 - **Reason:** Exploration of possible major or minor
 - **Reason:** The professor could have managed the class better, sometimes the class is boring and I feel like I can learn more effectively. But the professor has a very clear schedule and this is what I appreciate.
 - **Effort:** Do the homework and extra opportunity very carefully can really handle the class
 - **Understanding & Appreciation:** I'm very clear about what he is doing in every chapter and he makes me understand that statistics is really applicable in the reality.
 - **Intellectual Growth:** Logic and carefulness
 - **Quality:** He is putting much time to make us understand as much as possible, but I feel like he sometimes put too much time on easy ones but talk a little bit less on difficult ones.
- o Student 61
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** Homework assignments usually take a while so i will spend a couple days on them, and a couple days to study for tests as well.
 - **Understanding & Appreciation:** I've taken statistics in high school but this class has helped me gain a better understanding of the material.
 - **Intellectual Growth:** It has helped me see how statistics play a role in every day life because the professor will mostly use real studies or discuss current events.
 - **Quality:** Professor Cipolli is a great educator. His friendly manner makes his students feel comfortable with him and that they can approach him for extra help which is important. He is also a clear and organized

lecturer and his notes and lecture slides are easily accessible on moodle.

○ Student 62

- **Reason:** Core or Areas of Inquiry (distribution) requirement.
- **Effort:** This course was the kind of course I definitely had to put a lot of work and time into to understand basic concepts. I found it very difficult and time consuming.
- **Understanding & Appreciation:** I think it made me understand what statistics were and how they were taken and what they meant but also I appreciate them less because it was hell.
- **Intellectual Growth:** It made me think about the statistics I take as fact without questioning them
- **Quality:** I think that the lecture style is hard but Professor Cipolli did his best to make himself accessible and make sure he tried to meet with everyone who tried. He was very understanding and kind. There was a lot of material but he did his best to adjust to the pace of the class.

○ Student 63

- **Reason:** Major or minor requirement
- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Effort:** I put a lot of effort into this course. I studied very hard for every single exam and always tried completing the homework with enough time to go to the tutoring hours available for my class.
- **Understanding & Appreciation:** I have never taken stats before so it was definitely very fast paced and hard for me, but I am glad that I was able to pick up so many different "standards" as he calls them. I am very happy with how much I've learned this semester.
- **Intellectual Growth:** I really liked when professor Cipolli would bring in real statistics to class – it made everything he was teaching more tangible and not like some of my other math classes in the past where there was no real world application that made sense. When looking at different statistics I will always think critically about them, which is a sign of the course contributing to my intellectual growth beyond the course itself.
- **Quality:** Cipolli was very clear. He answered questions in a way that allowed us to understand the subject at hand very well. I think one of his strengths is speaking confidently about the material covered in class and never hesitating when answering a student's question. he also had a great sense of humor which made this class pretty fun at times!

○ Student 64

- **Reason:** Major or minor requirement
- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Reason:** Interest in the course material
- **Effort:** Homework assignments usually took 1 to 3 hours to complete, but I did not spend a significant

amount of time studying for tests.

- **Understanding & Appreciation:** I had wanted to take statistics since high school just to see what it was all about and I've now been able to do that.
 - **Intellectual Growth:** It helped me learn to think in a different kind of way regarding how statistics apply to many scenarios in everyday life.
 - **Quality:** Professor Cipolli is a very knowledgeable and effective professor. He does very well given the task of teaching so many students at once, but I feel that his grading procedures regarding standards could be touched up a bit. Also, I really wish tests would be returned so we could find out exactly what went wrong.
- Student 65
- **Reason:** Major or minor requirement
 - **Reason:** Other requirement.
 - **Reason:** Prof Cipolli is a great guy and he wants the best for his students.
 - **Effort:** I put a lot of effort into this class. The homework takes a long time to complete and since all of the exams are accumulative, reviewing all the material takes memorization and effort.
 - **Understanding & Appreciation:** Since Professor Cipolli was so excited by Stats, it transferred to the class.
 - **Intellectual Growth:** It taught me that I should not wait until the last minute to complete assignments or study for exams.
 - **Quality:** Professor Cipolli is a hard professor, but he wants the best for all of his students and he looks to make sure we succeed. A weakness of his may be that we have to use a computer program called R to do our homework, and if you have no computer programming background it can be difficult to navigate. A strength of his is that he is always ready to help and explain to make matters more clear for the students.
- Student 66
- **Reason:** Major or minor requirement.
 - **Effort:** Pre-read the class notes and review the conceptions that taught before in order to get a clear conception of each method.
 - **Understanding & Appreciation:** This course helps me to understand how statistics is used in our lives and what kind of statistics is called a unbiased one which helps me to judge those news on the TV.
 - **Intellectual Growth:** The use of probability and some other methods requires a lot of logic which helps me to strengthen my way of thinking
 - **Quality:** Professor Cipolli is very passionate in teaching this class and prepared well during each class and he shows every conception very clearly but I think he could build the class more interesting and challenging.
- Student 67
- **Reason:** Major or minor requirement

- **Reason:** Exploration of possible major or minor
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** Interest in the course material
 - **Effort:** I put an immense amount of effort into this course. The material did not always come easy to me in class, so I spent a lot of time studying for each exam. Also, I spent a lot of time on the homework assignments, as some of the questions challenged me and required a lot of thought
 - **Understanding & Appreciation:** This course challenged me. This was my first time taking a statistics course, so now I have a solid understanding of the different components of statistics. I found the course very interesting, so I also gained an appreciation for the components of statistics.
 - **Intellectual Growth:** The homework assignments typically contained many questions, and this taught me to spread out my work over time. My time management skills surely improved from taking this class.
 - **Quality:** The quality of teaching in this course was very high. Professor Cipolli is a great professor who always asks for his students' input on his weekly diagnostics, and it was evident that he takes our comments and concerns into consideration
- Student 68
- **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** This class did not have day-to-day assignments, but I worked hard to complete homework assignments and study for exams effectively. I also came to every class, despite the large lecture setting.
 - **Understanding & Appreciation:** I generally do not enjoy math, but I found that in this course there were times where I actually did enjoy what I was learning. While it could still be frustrating for me when I could not figure out a particular problem or I did not understand how to use R studio in the moment, I think overall I did grow to appreciate the material.
 - **Intellectual Growth:** I think it is important to take courses outside our comfort zone, and statistics/math courses in general are that for me. Taking the course helped me think critically about statistics and media in a way I wouldn't have otherwise.
 - **Quality:** Professor Cipolli worked very hard to make this course accessible and interesting to a class of over 100 people, and I think he did so effectively. He was always helpful during office hours, and willing to answer questions in class as well as on the moodle forum. He is engaging as a person and as a professor, which made the class environment an interesting one. The only changes I would make to the course would be 1. To teach R more thoroughly at the beginning of the semester, as it was very foreign to me and I believe many other students and 2. The homework was sometimes confusing when there would be many mistakes. I understand that this is changing at the end of the semester, which I think is an improvement. Overall, I think for an intro level math course this class was interesting and effective in facilitating learning.

- Student 69
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Effort:** My effort was not outstanding, as I often devoted only one to two times a week for this course. However, I did go to extra tutor sessions and when I did work for this class it was for extensive periods of time. Overall, my effort was good.
 - **Understanding & Appreciation:** As I have already taken stats, I wasn't sure how much different this course would be. Overall, the instructor made me learn things in new ways and this has broadened my understanding of stats. Also, we had to use technology, such as the program R Cran, which was unfamiliar to me before this class.
 - **Intellectual Growth:** This course attributed to my intellectual growth in lots of ways, as I was challenged to think in different ways and fully grasp the theoretical side behind topics
 - **Quality:** I thought the quality of teaching overall was very good. With such a large class, lots of content, and not much time to teach it all, I think the instructor did a very good job getting through everything without rushing. He was always very accessible and organized which made the class run smoothly. Furthermore, his assistants who held extra tutoring sessions were very helpful.
- Student 70
 - **Reason:** Other requirement
 - **Reason:** Interest in the course material
 - **Effort:** There was a lot of effort put into making sure my homework was done properly, and preparing for the tests.
 - **Understanding & Appreciation:** This course gave me knowledge on stats and how probability and polling works in the real world.
 - **Intellectual Growth:** This course gave me abilities to be a better critical thinker.
 - **Quality:** This Professor had strengths in being prepared for class each day, and helping me understand what he was teaching through his teaching style.
- Student 71
 - **Reason:** Major or minor requirement.
 - **Effort:** I put a fair amount of effort into this class.
 - **Understanding & Appreciation:** Examples of really world applications made understanding the course subject much better.
 - **Intellectual Growth:** I now know how to appropriately read through statistics presented in various periodicals and how to identify bias and/or misrepresentation.

- **Quality:** Statistics can often not be super intuitive to someone who has not been exposed to it in the past, especially when dealing with coding. It was always helpful when Professor Cipolli provided an example for a concept that occurs in the real world. However, there were some times we would be going through a concept and not example would be presented along with it, just the concept itself. This makes understanding the material particularly challenging for me as I don't have anything to associate the topic with. Other than this, the homework was helpful, particularly the extra problems tied to the homework. I also wish the standards grading gave more weight to the first attempt. The class was overall enjoyable, and Prof. Cipolli is very enthusiastic.
- Student 72
 - **Reason:** Major or minor requirement
 - **Effort:** A lot of effort. Really challenged myself with a math course I wasn't too ready to take.
 - **Understanding & Appreciation:** Math is hard
 - **Intellectual Growth:** It shows me a lot about the news and other things we see.
 - **Quality:** I didn't like the class because it was too big. The teacher was great he did his best to teach a big class which I did like
- Student 73
 - **Reason:** Major or minor requirement.
 - **Effort:** I found that the course was pretty easy. Despite Professor Cipolli saying that you needed to start Homework early, I always found that I could do it the night before. Same for tests.
 - **Understanding & Appreciation:** Statistics has always been an interest of mine, I think this class did a good job of stoking the fires of my intellectual interests.
 - **Intellectual Growth:** I think this class taught me how to work with numbers. Always important to know.
 - **Quality:** I think Professor Cipolli needs to get rid of R. The hassle of the program is not worth the hundredth of a decimal place worth of clarity that it provides.
- Student 74
 - **Reason:** Other requirement
 - **Reason:** Reputation of the instructor
 - **Reason:** It was the only "science" course offered this semester without a lab requirement
 - **Effort:** I came to class everyday, went to office hours and I tried to ask questions when things didn't make sense.
 - **Understanding & Appreciation:** I've always liked math but I never understood it or was good at it. This course helped make sense of a lot of things in math as well as my major, sociology, which uses a lot of statistical jargon that I've never understood before taking this course.

- **Intellectual Growth:** I've always liked math but I never understood it or was good at it. This course helped make sense of a lot of things in math as well as my major, sociology, which uses a lot of statistical jargon that I've never understood before taking this course.
 - **Quality:** I think that professor Cipolli was a really good and really insightful teacher. He has high expectations for us but is also realistic about what students will/will not or can/can't do. I think that the workload was a bit much some times and the schedule was a lot to deal with but overall I was satisfied and even pleasantly surprised with how well this class went, because of professor Cipolli.
- Student 75
- **Reason:** Major or minor requirement
 - **Reason:** Other requirement
 - **Reason:** Medical school requirement
 - **Effort:** I completed the homework, attended all lectures, and studied for exams. I also attended weekly tutoring sessions lead by our TAs on Tuesday and Thursday from 7-9pm.
 - **Understanding & Appreciation:** This course was taught very well and in a very interesting way that heightened my appreciation for the subject. In addition, the enthusiasm from our professor made it easy to be interested in the course material.
 - **Intellectual Growth:** Personally, this course required a decent amount of effort outside of lecture and taught me a lot about time management. I learned valuable things about my personal study habits etc. that are applicable to all my other courses.
 - **Quality:** I think a strength of the teaching in this course is the accessibility and consideration from the professor. He was always available to students and really took our opinions into consideration in terms of deadlines, the pace of the course, etc. I have never had a professor who puts in as much work outside of lectures than this class. We are given an abundance of extra practice material, summary presentations, and review sessions. One weakness to this course could be the lack of personal engagement with the professor due to the section size. I understand this is unavoidable with such a popular course, but in terms of feeling comfortable to ask questions etc. a course section of 120 students is not the best.
- Student 76
- **Reason:** Major or minor requirement
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I believe that I worked fairly hard, enough to earn me a good grade and generate a higher understanding of statistics.
 - **Understanding & Appreciation:** It increased my already significant appreciation for statistics even after I took it in my senior year of highschool.

- **Intellectual Growth:** I have learned, through Professor Cipolli's unique way of grading, how to study so that I retain my knowledge from early in the semester throughout the length of the course and beyond.
 - **Quality:** I absolutely love Professor Cipolli. He manages to keep a class of 125 kids entertained and alert. He also demonstrates a profound interest in his students and their well-being and often asks them questions on how to improve his class. His greatest quality, though, is that he structures the class to move at a speed determined by the students. I have no critiques for Professor Cipolli at all and, overall, he has made my first semester at Colgate one to remember!
- Student 77
- **Reason:** Major or minor requirement
 - **Effort:** I spent most of my time doing the homework and studying for the exams in this class. This didn't involve doing work for this class every night, but when I did do work for this class it was relatively difficult and took a long time, but I think it was fair and definitely helpful.
 - **Understanding & Appreciation:** I like this course because Professor Cipolli had us look at real-world examples which allowed me to see statistics all around me on a regular basis. He has definitely increased my interest and appreciation of statistics.
 - **Intellectual Growth:** This class requires a lot of independence. The fact that it's a large lecture class and that the homework are due so far apart from each other allows students to manage their own time and take charge of their own understanding in this course. This course helped me figure out what I needed to do to succeed.
 - **Quality:** Professor Cipolli was a fantastic teacher. He was clear with his expectations for the class and how this course would work. He explained things clearly and did his best to ensure everyone understood the material by encouraging questions and reexplaining things that people didn't understand. He really cares about his students and wants them to succeed and is always cheerful. The only thing I would have preferred to be different is how accessible he was. All of his office hours were during my other classes and he didn't have much other time to meet. That being said, he did put his whole schedule online which easily allowed us to schedule appointments with him, even though he didn't have much time.
- Student 78
- **Reason:** Elective outside major or minor
 - **Reason:** Interest in the course material.
 - **Effort:** I did all the homework and extra problems in preparation for exams but I never felt like I needed to cram right before a test.
 - **Understanding & Appreciation:** I took AP stats in high school and enjoyed the class so I wanted to take it in college. I like the material and found it easy to understand.

- **Intellectual Growth:** I am a sociology major so I do not do a lot of math in any of my other classes. It was nice having a class that is so different, yet still applicable, to my major.
- **Quality:** I think Professor Cipolli does a good job of engaging such a large class. He is very open to student feedback, which I appreciate and definitely makes an effort to answer questions and help students succeed. His standards grading is a little confusing at first, but I actually think it is beneficial in the long run.
- Student 79
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** As I am not a math or science major, this course proved to be exceptionally challenging for me. That being said I had to put in a great deal of effort to understand the material in this course. I spent countless hours on the homework assignments and attended tutoring sessions on Thursday evenings. I have also attended office hours several times to ask questions about the homework or previous exams.
 - **Understanding & Appreciation:** I definitely think I have a better understanding of the concept of statistics and now know that there is a lot more behind a statistic than a random percentage. I think the instructor did a really good job of making the class interesting even for people who may not be math or science majors.
 - **Intellectual Growth:** I haven't taken a math class since high school so I think this class was a good refresher for me. When I read or watch the news I now think differently about the numbers that they throw out there from polls and other surveys because I can actually conceptualize how they would have gotten that data. Statistics are a part of every day life so I think this class is really applicable to me even though I am not a math major.
 - **Quality:** Despite the fact I found this course to be incredibly difficult, I do think the instructor did as much as he possibly could for all of our personal achievement in it. Class lecture was always very clear and we were constantly reminded about tutoring hours, extra credit opportunities, etc. When questions were asked on the moodle discussion board or in class, answers were provided in a very timely manner. I truly appreciate all of the effort put forth by the instructor to make sure we had as many opportunities as possible to grasp the material.
- Student 80
 - **Reason:** Major or minor requirement
 - **Effort:** A put a lot of effort, had hard time with some topics
 - **Understanding & Appreciation:** It made me think very differently about probability compared to my previous knowledge
 - **Intellectual Growth:** This course hrlped me a lot understand things like news polls
 - **Quality:** The teaching was good, professor very open to suggestions and feedback
- Student 81

- **Reason:** Exploration of possible major or minor
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** Other requirement. Interest in the course material
 - **Effort:** Most of my effort manifested itself in homework problems and exams. Besides filling out moodle forms and studying for exams, I never focused on the subject material outright.
 - **Understanding & Appreciation:** This course acted as kickstart to seeing the world in different lights.
 - **Intellectual Growth:** This course helped change the ways I see the news.
 - **Quality:** I believe Professor Cipolli has a clear passion for statistics, and that shines through.
- Student 82
 - **Reason:** Major or minor requirement
 - **Effort:** This course demanded a fair level of effort. The course was definitely designed so that almost anyone can do well, but it is incredibly hard to do VERY well. This is the result of the standardizing grading system in my opinion.
 - **Understanding & Appreciation:** I feel much better about the course material, but wish we had gotten to future units sooner. Having not gotten to hypothesis testing and regressions yet is somewhat frustrating.
 - **Intellectual Growth:** I am able to think more clearly and critically about the statistics I hear in the news.
 - **Quality:** Cipolli is very organized and very smart. This is clear to anyone who walks into a room with him. However, I think that sometimes he lets "small" things go unaddressed, which can be very frustrating for his students. On our homework assignments, for example, there were constantly errors that needed to be adjusted. This was a consistent issue from the first assignment to the last. Lastly, it may be worthwhile to consider the way that his standardized system favors students who are newer to math and introduces much more double jeopardy for students who are not.
 - Student 83
 - **Reason:** Interest in the course material
 - **Effort:** This class didn't have nightly homework, yet since the homework consisted of many problems and took lots of time, I would have to invest a good amount of time into the homework. I would collaborate with students and go to office hours. I take notes in class and read the powerpoints. This class wasn't that challenging overall, yet I needed to work for my grade.
 - **Understanding & Appreciation:** This course gave a broad introduction to the world of statistics. I had already taken a stats class before, yet this class just broadened my understanding of the subject material.
 - **Intellectual Growth:** I learned better time management skills due to the length and difficulty of the homework. Additionally, I learned how useful office hours are. I came in frequently with questions about the homework and the professor was very willing to help me.

- **Quality:** He is clearly passionate in this subject material and really respects his students. On numerous occasions, he would ask for our opinions on due dates and course load. He wants to make our lives easier, which I really appreciate. Overall, he is a passionate, kind professor.
- Student 84
 - **Reason:** Major or minor requirement
 - **Effort:** I put in a great amount of effort that consisted of hours dedicated to studying and doing practice problems as well as forming study groups to improve my understanding of the topics.
 - **Understanding & Appreciation:** I gained an understanding on statistical analysis especially in the real-world and how to be aware if it is accurate or not.
 - **Intellectual Growth:** I feel more aware of the world around me and observant of statistics.
 - **Quality:** The quality of teaching is very high for this course, but I wish we can move at a slightly slower pace and be more clear and concise on concrete facts and formulas. There are lots of resources provided for us such as slides posted online, tutoring hours, office hours, diagnostics, etc. so it is very helpful.
- Student 85
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** Interest in the course material
 - **Effort:** I have put in more effort for this class than any of my other ones.
 - **Understanding & Appreciation:** its quite cool to see how stats played a part in the real world especially when we talked about weapons of math destruction.
 - **Intellectual Growth:** I look at everyday life with a different eye now because of all the statistics thrown at us each day
 - **Quality:** I would say the quality of teaching is pretty high
- Student 86
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** I put a great deal of effort into this class which is necessary for this class since tests are cumulative, also the homeworks are long and time consuming so dedication to this material is necessary but pays off
 - **Understanding & Appreciation:** It made me recognize the great deal to which statistics we come across in daily life are faulty and how to look at data in a more interpretive way
 - **Intellectual Growth:** It made me grow as an intellectual by helping me start from very fundamental concepts and analysis in order to apply complex and descriptive calculations. Helped me understand the importance of working from the ground up, and that laying a strong foundation of knowledge allows for better understanding once it gets difficult .
 - **Quality:** Overall the teaching quality is very high, Professor Cipolli is highly engaged and passionate about

the material which is a positive reinforcement as a student. He also makes the material relevant which helps conceptualizing material and makes me feel like what I'm learning matters and is relevant. Although his grading methods are unorthodox, I do genuinely think he has the best interest of the student in mind.

○ Student 87

- **Reason:** Major or minor requirement
- **Effort:** I was attentive in class and completed all assignments on time. I spend a very large amount of time preparing for assessments well
- **Understanding & Appreciation:** It helped me better understand the importance of statistics and their real world uses
- **Intellectual Growth:** It helped me further analyze information
- **Quality:** Professor Cipolli is a wonderful professor he knows his craft inside and out and uses interesting examples in lecture that make this large class interesting. He always gives us access to all the lecture power points and the notes packets in advance which is incredibly helpful.

○ Student 88

- **Reason:** Major or minor requirement
- **Effort:** I put a consistent amount of time and dedication into this course. Professor Cipolli's style of teaching is very interesting and constantly engages students with the course material.
- **Understanding & Appreciation:** This course strengthened my understanding and appreciation of the course subject. Professor Cipolli's consistent enthusiasm and relatable lectures keep the students involved and interested to learn more.
- **Intellectual Growth:** Professor Cipolli's grading system requires students to constantly review course material throughout the semester in order to do well on tests, which promotes intellectual growth.
- **Quality:** The quality of teaching in this course has been very high throughout the semester. Professor Cipolli is a great teacher with an evident passion for statistics that makes this class very enjoyable.

○ Student 89

- **Reason:** Major or minor requirement
- **Reason:** Core or Areas of Inquiry (distribution) requirement
- **Reason:** Interest in the course material
- **Reason:** I took this course because it was a requirement for an Economics major and I also enjoyed the topic.
- **Effort:** I put in the amount of effort that I thought an A in the class would require. At times it was a lot of effort and at others it was minimal effort.
- **Understanding & Appreciation:** This course pretty much taught me everything I now know on the subject

so I'd say it did a very good job.

- **Intellectual Growth:** This course made me think in different ways and from other viewpoints. There were many different ways in which we could learn the course material.
- **Quality:** The quality of teaching was pretty outstanding. We were able to ask questions during the lecture which is a rarity for such a large class.
- o Student 90
 - **Reason:** Other requirement
 - **Effort:** I came to class prepared everyday including have the notes printed and paying attention to the lecture. I also visited the professor's designated office hours, met with the tutor and worked with classmates to further my learning.
 - **Understanding & Appreciation:** This course did not positively contribute to my understanding of the course. I took it to fulfill a requirement and I never wanted to take it. Nonetheless, at the beginning of the course I was optimistic that I would at least learn something and maybe even improve my math skills. I was definitely challenged by the course, but I don't think I learned much. Perhaps it's my learning style and I work better in larger classes, but I just feel like at one point I was confused my the course just kept moving forward at a fast rate and everything was built on my confusion. Now that we're towards the end of the course I just want this to be over with so I can move on.
 - **Intellectual Growth:** It didn't.
 - **Quality:** I think Professor Cipolli is very organized and post a lot of resources on the portal and is open to answering questions which I really appreciate. I just think the first time he teaches a concept he could spend more time on it, that way there were are less questions later. Often times when I would go to office hours with a question he would say it was something we had discussed on a certain day in class, but during the lecture he would go over the concept once and just move on. Although the lecture slide are posted online, they don't actually show how to solve the problems they mostly just show solutions so it ends of feeling relatively pointless for me.
- o Student 91
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I put a considerable amount of effort into this course. Due to the nature of the grading, this was mostly in the form of creating detailed notes from each chapter so I can study them for each test, and just generally keeping my knowledge of past units as good as possible.
 - **Understanding & Appreciation:** I actually find the real-life applications of statistics pretty interesting. I don't think I am ever going to pursue statistics alone as a career path, but I see that it connects heavily to

many of my interests. As such, I think this was a valuable course to take and that I will use the curriculum from this class later in my life.

- **Intellectual Growth:** It showed me that statistics are used and manipulated all the time in my life and I had no idea. This class has taught me to be more critical of the ways in which data is presented to the public, and how to correctly read data myself.
 - **Quality:** This course was well taught. Professor Cipolli clearly cares about his students and has put a lot of effort into making the class interesting, clear, and accessible. His ways of teaching are very straight forward, and he encourages asking questions, which is great. Sometimes, he cuts people off and answers what he thinks they're asking, but it wasn't actually their question, so that can get a bit frustrating. I don't know if I love the grading system, but it does make sense, and I think I am coming around to it. I feel very prepared for the final, which is a load off my back for sure
- o Student 92
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I completed the assigned homeworks, attended class, and studied for exams.
 - **Understanding & Appreciation:** I didn't really know much about statistics before this class and now I feel like I have a solid grasp of the subject.
 - **Intellectual Growth:** It made me evaluate problems in a way that I had not before.
 - **Quality:** I think that professor Cipolli does a good job with this course. He usual interesting examples in class and he cares a lot about student feedback.
 - o Student 93
 - **Reason:** Exploration of possible major or minor
 - **Effort:** Introduction to Statistics was I class I added during Drop/Add period. Right away I thought the class was very interesting but did see that it was going to challenge me in a good way. It took a couple weeks for me to really understand that it was necessary to put a lot of hard work in including, extra help tutoring hours, doing extra practice problems, and requesting a tutor. I am put in a lot of work but it is through that work I was really able to get a grasp of the class material.
 - **Understanding & Appreciation:** I feel that in our everyday lives you see statistics everywhere, whether it is in the news or on websites. Therefore I am really happy I took a course on it because it will help me grasp a better understanding for statistics and knowing how accurate they are. Especially thinking about being an Econ major, taking this class will potentially help me succeed in Intro to Econ.
 - **Intellectual Growth:** I think this course is going to set a really good foundation for me at Colgate. It has helped me as a student learn time management, the importance of using all the resources given to me, and

showing me that I can take on challenging classes.

- **Quality:** I think the energy and passion Professor Cipolli brings to class is really special. He loves what he teaches and shares that joy to all his students. I also feel he is very accommodating, meaning that he always makes sure we're all on the right page and provides many extra help resources. My only critique would be that some of the information that we learn is harder to understand. I feel being an Introduction class, students would benefit from learning information a little more simplified and direct. However all together I really enjoyed coming to this class and how he challenged us but also shared his love for the subject
- o Student 94
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Effort:** For this course, I put in a lot of effort into the homework and preparing for exams. When a due date was not approaching there was less effort required outside of class, but there was a lot of work when there was a due date or exam coming up.
 - **Understanding & Appreciation:** I have never particularly enjoyed mathematics courses, but this statistics class made me realize that it can be interesting to learn! It is still difficult for me, but I do enjoy learning it.
 - **Intellectual Growth:** This course made me challenge myself and get out of my comfort zone, which will push me to try things I may not be the best at in the future, including other classes and beyond.
 - **Quality:** Professor Cipolli is a challenging, but passionate professor who I can tell loves teaching this subject and wants everyone to appreciate it as much as him. He made the class a lot more interesting than I thought possible, and although sometimes he moves really fast through material, I feel I learned a lot from him. I feel as if my grade won't reflect how much I have learned, however, which is frustrating as a student.
- o Student 95
 - **Reason:** Core or Areas of Inquiry (distribution) requirement
 - **Reason:** Reputation of the instructor. Interest in the course material
 - **Effort:** N/A
 - **Understanding & Appreciation:** N/A
 - **Intellectual Growth:** I hope to go to graduate school, and this course prepared me for the subject area that I am interested in.
 - **Quality:** Professor Cipolli is one of the first professors at Colgate that I've had (as a senior) who truly seems to care about teaching. He is dedicated to learning what works and what doesn't and accommodating different learning styles. He listens to student feedback and implements changes. Every day, he seems upbeat and excited to help us through the material. He provides endless opportunities outside of class for extra help. One of my favorite areas of the class was the online question board. Often professors at Colgate emphasize class participation and ignore the fact that not everyone learns best this way. I learn best through listening

and processing, so the online option was a great resource for me. I cannot say enough positive things about Professor Cipolli. As someone who hates math, I loved this class and am now considering taking statistics courses in graduate school. I hope he stays at Colgate for a long time.

- Student 96
 - **Reason:** Major or minor requirement.
 - **Effort:** I put a great deal of effort into this course. Although it was tough to always have accumulative tests, I believe that I have learned a lot more than if I had just memorized the material,.
 - **Understanding & Appreciation:** Although I am not really a math person, I think that the professor did a good job of catering to non math people. He used interesting examples that helped everyone learn. My knowledge and appreciation for the subject matter had greatly increased.
 - **Intellectual Growth:** I think it made me use a different part of my brain that I generally do not use.
 - **Quality:** I think he did a really good job explaining things and giving relevant examples in class.

Spring 2017: Section A

- Student:1
 - **Reason:**Major or minor requirement Additional Reason(s):
 - **Effort:**I put in a lot of effort to this course. There was a significant amount of homework every week. We had diagnostics which were due every Monday after class on Friday and we also had regular homework assignments on moodle that were very long. One of them was about 90 questions. They usually range from 75-90 questions which I think is too much.
 - **Understanding & Appreciation:** I definitely have a better understanding of statistics now and I think this course prepared me well for my major.
 - **Intellectual Growth:** Professor Cipolli taught me to pay attention to the news and other things because statistics are everywhere. Now I understand news reports and graphs more easily.
 - **Quality:** Professor Cipolli is a very nice and polite professor. He respects his students very well. However, I do not think everyone agrees with his style of teaching because he teaches such large classes. No one talks in our class and that frustrates him a lot. He also teaches every possible way to do a problem and I think that makes it more confusing to learn.
- Student:2
 - **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
 - **Effort:**In this class you really had to know all of the material. Cipolli made sure that you knew stuff from chapter one and didn't forget about it along the way, this made it necessary to do the homework and put in a lot of work.
 - **Understanding & Appreciation:** I learned a lot in this class, I wasn't really interested in statistics but i

learned a lot.

- **Intellectual Growth:** I learned how to study more effectively.
- **Quality:** I think that this class was good, I think that it's hard since everyone is at such a different level with what they know about statistics so I feel like he went too fast a lot of the times but I'm not sure how he could fix that since it's a large class with people at all different levels.
- Student:3
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s): I think the course is taught in a way that isn't particularly cohesive to learning the material. The information is not displayed in a coherent order; it's taught in ways that are strung out and confusing. Also, we would learn things and do things on homework assignment that had no relevance to what was on the tests.
- **Effort:**I didn't work as hard at the beginning then started putting in immense effort when I realized how the information that was taught in class didn't correlate directly with what we were tested on.
- **Understanding & Appreciation:** It made me gain appreciation for the topic
- **Intellectual Growth:** It made me more aware and understanding of statistics in the world.
- **Quality:** I think the professor is extremely accessible, kind, reasonable, and wants everyone to succeed. However, I think the course needs to be taught in a more effective way. I struggle to follow what we talk about in class, then feel completely confused by what we have to do at home, as if we didn't learn any of it in class.
- Student:4
- **Reason:**Core or Areas of Inquiry (distribution) requirement
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**I have put a great deal of effort in this class
- **Understanding & Appreciation:** I grew as a more comfortable mathematician
- **Intellectual Growth:** Being able to interpret data more efficiently
- **Quality:** Professor Cipolli was a great teacher, I wish the class was smaller so I could've been more successful...I imagine it being hard to make all 75 of us successful, but as from what I can see, he's done a good job.
- Student:5
- **Reason:**Exploration of possible major or minor Additional Reason(s):
- **Effort:**I put in a strong effort in the course for all of my major assignments, homework and tests. Meeting with the professor helped me prepare a lot.
- **Understanding & Appreciation:** Since this is an intro course, it is the first time I have been introduced to many of these topics, so therefore much of what I have learned in the subject has come from this course.
- **Intellectual Growth:** It may be helpful for other math courses I plan on taking in the future.
- **Quality:** He is very clear with the terms that he teaches us, and his office hours have been very helpful.

- Student:6
- **Reason:**Elective within major or minor
- **Reason:**Reputation of the instructor
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**I come to class every MWF for this course because he teaches the material very well. The homeworks are very long and challenging but he gives a decent amount of time to get them done. I take a few days to study for each exam as well.
- **Understanding & Appreciation:** I have never taken a statistics course before and I am really happy that I did because we use stats everyday in the real world. Cipolli is very passionate about the course makes me appreciate the subject a lot more.
- **Intellectual Growth:** I have never taken stats so I have learned a lot more on this subject.
- **Quality:** Cipolli is a very energetic and great professor. He explains the material very well, using graphs and examples to portray his points. He motivates me to want to do well in the course and to understand the material.
- Student:7
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**The course subject matter is new to me, and the way lessons as well as exams are delivered are different from my other classes, so it took me time to truly adapt to the learning environment of this class. I usually spent about 3-4 hours on a homework assignment, and about 4 hours on exam reviewing.
- **Understanding & Appreciation:** The course facilitated my understanding of statistics, which before was a blurry concept to me. Though I only took it to finish the area of inquiry, it has often times prompted me to think about the uses of statistics in everyday life.
- **Intellectual Growth:** The course facilitated my attention to detail while completing assignments and doing exams, as well as my serious attitude toward learning.
- **Quality:** The professor is attentive to details, dedicated to student progress, easily accessible, and efficient in handling grades. However, the lecture styled lessons delivered can get boring at times.
- Student:8
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s): As a comp sci major I felt knowledge of statistics would be an important skill to learn, so I chose this class as my last natural math/science requirement.
- **Effort:**I took a lot of time to do my homework assignments, first going through looking at my own notes from class and then a few days later reviewing my work with the class notes and lectures. This class was very challenging but at the same time not ridiculously time consuming—I very much appreciate how the HW

assignments are excellent preparations/study guides for the upcoming exams. I also felt that reviewing the homework and spending a few hours before each test working on the example test problems were helpful.

- **Understanding & Appreciation:** When I took a pre-alg class in high school, we had a stats&probability unit: I hated it and I got the worst grade I've ever gotten! This class however took away my bad perception of it and I actually enjoyed taking it. I learned and understood far more than I had before, and enjoyed being challenged.
- **Intellectual Growth:** I took the class because I thought it would be helpful for computer science. I am in a theoretical course right now, so I don't make my own programs as much, but I'm sure when the time comes this knowledge will apply.
- **Quality:** I loved professor Cipolli's class. I think it was pretty hard to change my mind about how I felt about statistics, and professor cipolli managed to do so! Even though it is my earliest class and I don't like getting up, i enjoy coming to stats because class was always upbeat and entertaining—though challenging and required my full attention. I think Professor Cipolli did a very good job of creating a positive environment while also creating a very reasonably difficult course.
- Student:9
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**I put a moderate level of effort into this course. I completed the diagnostics and homeworks on time but should have spent more time reading the chapter notes because they are very useful.
- **Understanding & Appreciation:** It significantly furthered my understanding of statistics and its application to real world issue - I also found that it applied to my other courses as well.
- **Intellectual Growth:** It was a significant challenge to me as it required a lot of effort and time to learn this difficult material. The info in later chapters did not come to me easily so I had to teach a lot of it to myself.
- **Quality:** I think Professor Cipolli truly cares about the progression of his students and his teaching methods. He is very passionate about it and appreciative. He wants to make the lectures as interesting as possible and I like how he grades by progress.
- Student:10
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s): I think that it would be a great motivator for students to attend more recitations if for every 10 recitations attended (sign in sheet or something), you could add 2 extra credit points to your lowest test grade or something. I think that also because the class is SO large, like 75+ students, it would be awesome if somehow this course could be split into two or more smaller person classes for a more intimate learning environment. It is definitely very intimidating to ask questions or raise your hand in a class that is so big, and even when my friends or I didn't understand something completely, it is hard to gather the confidence to speak in front of so many people in fear of looking stupid in front of so many classmates. This is absolutely not Prof. Cipolli's fault - he treats every question like

it is a good one. Also, if at all possible this class would be better I think if it was taught in Ho 101, where we took one of our exams, because of the room setup (stage and different levels) it made it much easier to see the board and the professor.

- **Effort:** This class definitely demands a lot from its students. There is always an assignment to be completed, and extra credit opportunities that are offered definitely motivated me to help me get my grade up.
- **Understanding & Appreciation:** I took AP Statistics in high school, and compared to that course, this course was taught in a much more comprehensive way - definitely more challenging but also much easier to understand in the way that Professor Cipolli teaches the course matter.
- **Intellectual Growth:** This course definitely made me appreciate statistics more, and I think that it is a course that many students should consider taking because it is applicable to almost every other subject that you may encounter in other classes.
- **Quality:** The quality of teaching in this course is definitely 10/10. Professor Cipolli is young, energetic, and eager to engage ALL of his students and he does it well.
- Student:11
- **Reason:**Major or minor requirement
- **Reason:**Exploration of possible major or minor
- **Reason:**Reputation of the instructor Additional Reason(s):
- **Effort:**I put a lot of effort into this course. I studied a lot for the test and I spent a lot of time completing the homework assignments.
- **Understanding & Appreciation:** After taking this course I now understand how to interpret polls that are focused on the news and in articles. I think that is a valuable skill because I learned that I did not previously understand that.
- **Intellectual Growth:** The course contributed to my intellectual growth because I learned new study methods and I learned to not forget the information that I have already taken a test on because the following information will build off of it .
- **Quality:** I think the quality of teaching in this course was great. Professor Cipolli provides many resources for students if they do not understand a specific topic.
- Student:12
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**i put a lot of time and effort into the hw and studying for the tests but it didn 't pay off at all
- **Understanding & Appreciation:** that statistics are everywhere and its important to understand them
- **Intellectual Growth:** i learned some real world examples that i never would have before.
- **Quality:** Strengths: good guy, very smart, dresses well, loves math and loves to teach the subject weaknesses:

he thinks everyone understands stuff on the first time, he has to spend more time on material and less time on R. We shouldn't be coding in a intro to stats class, doesn't make sense.

- Student:13
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I do all of the assignments and study for exams. I put in a fair amount of effort because the course material does not come that naturally to me
- **Understanding & Appreciation:** I had never taken a statistics course before, so this class introduced me to the subject.
- **Intellectual Growth:** This course taught me/is teaching me how to deal with subject areas that may not be as interesting or come as naturally to me.
- **Quality:** I think Professor Cipolli does a good job about being excited about his material, which in turn makes students more excited. I think the course could be a little bit better designed to reward students who do their own work and come to class, although I recognize that is hard to accomplish in a class of this size.
- Student:14
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I put in an average amount of effort and studied somewhat thoroughly for the exams
- **Understanding & Appreciation:** Although I have a good grade in here I, I feel like I do not have a greater appreciation for the subject but do generally have a greater understanding of it
- **Intellectual Growth:** It forced me to critically think at times
- **Quality:** Professor Cipolli did a good job creating a positive learning environment in a large class with a subject that in my opinion is somewhat dull. Overall, he did well to facilitate the course and keep things interesting
- Student:15
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**Every week a fair amount of homework and diagnostics. Continuous learning through retesting of standards during exams and paper was fun
- **Understanding & Appreciation:** Promotes my understanding and cultivates my continuous learning through exercises and class
- **Intellectual Growth:** I have become more adept at using R and the statistical way of thinking
- **Quality:** Professor cipolli is awesome coz he is so passionate about teaching and is super caring and patient.
- Student:16
- **Reason:**Other requirement Additional Reason(s): Prerequisite for econometrics.
- **Effort:**This course required effort during class through actively paying attention as well as required learning outside of class . This included completing weekly diagnostics, homework, writing assignments, and studying

for exams.

- **Understanding & Appreciation:** I have learned not to take studies and reports for face value. Understanding biases, in sampling methods and design, is key to avoiding generalizations and false conclusions. Further, understanding the limits of statistics in finding confidence intervals, and using statistics to infer parameters, is important in understanding the scope of the subject area and all that goes into analyzing data.
- **Intellectual Growth:** I have learned how to pace myself, while completing homework assignments with due dates in the future. Additionally, I have learned the importance of longterm learning through the two tries on standards.
- **Quality:** Strengths of Prof Cipolli's teaching include responsiveness to Moodle posts and diagnostic questions, the continuous opportunity to provide feedback on diagnostics, and the emphasis on longterm learning. Further, Prof. Cipolli is very approachable during office hours and fields questions, both in and out of class, very well. On that note, his office hours are the same time on MW, so these could be improved on because, if one has a class, the only way to ask questions or get tests is by making an appointment. Other weaknesses include moving very slowly in class but requiring a much deeper and different understanding of course material for homework. Also, more smaller group work may facilitate better class involvement.
- Student:17
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**More effort than I expected, but not overwhelming
- **Understanding & Appreciation:** Enhanced my ability to evaluate statistics I hear in the news, etc
- **Intellectual Growth:** Greater quantitative skills
- **Quality:** Professor is very accessible to all students, showing a genuine interest in our learning as well as our comfort in the classroom
- Student:18
- **Reason:**Elective within major or minor Additional Reason(s):
- **Effort:**I put a lot of effort into this course and spent a lot of time on homework assignments and preparing for tests .
- **Understanding & Appreciation:** I went into this course with little to no knowledge about statistics, and I definitely learned a lot more than I expected and I have come to appreciate this course more.
- **Intellectual Growth:** I learned more about myself as a learner and what steps I need to take to be successful in school.
- **Quality:** I think that the professor did an excellent job of teaching this course and explained the course material extremely well. It was helpful that he went slow and repeated himself often, although this could make the class a little dull at times. He was clearly very knowledgeable in the subject matter and was able to answer all the

questions that I had.

- Student:19
- **Reason:**Major or minor requirement
- **Reason:**Core or Areas of Inquiry (distribution) requirement
- **Reason:**Interest in the course material Additional Reason(s): I took AP stats in highschool and didn't feel like I really got the most out of that course in terms of understanding. Taking this course has been great in actually learning and understanding the material.
- **Effort:**I made sure to keep up with all the chapter readings, homework, extra opportunities, and will do the extra credit soon. I went to some review sessions and office hours.
- **Understanding & Appreciation:** I think it made me appreciate the material itself more because it was like putting a face to a name when we went through PDF and CDF– I finally actually learned what the acronyms stood for.
- **Intellectual Growth:** Whenever I watch Tv and they provide statistics I do genuinely question where they got it from and how it could be skewed to fit their narrative.
- **Quality:** I think it is a very high quality of teaching in this course as the professor really takes care and effort in explaining things to the class and making himself available for outside questions and help.
- Student:20
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**The homework and standards were challenging, so I worked hard to prepare for them. The coarse load was fair and not too much and not too little in my opinion.
- **Understanding & Appreciation:** I can apply statistics to my daily life. I understand how data is presented in the news, and how statistics can be misleading.
- **Intellectual Growth:** I am able to use stats in my business. I can make informed decisions based upon the data for myself, without skewed information or misleading statements.
- **Quality:** I thought Prof Cipolli was a great professor who made learning a collaborative process and actually had us remember the material instead of just cramming for a test the night before. For instance, since the standards were cumulative and your second standard grade counted for 75other classes I was tested on the material once and crammed the night before and then forgot the material soon after.
- Student:21
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I studied and read the notes everyday before classes.
- **Understanding & Appreciation:** It has helped me a lot with understanding Econ as that is my potential minor

- **Intellectual Growth:** I am not really a math person and this course challenged me to be better at it
- **Quality:** I loved professor cipolli he was very accessible and enthusiastic about teaching. He made me excited to come to class everyday.
- Student:22
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I did all the homework assignments and studied for all the tests.
- **Understanding & Appreciation:** I think this class allowed me to understand what goes into an experiment. A lot of times we only see the statistical outcomes of a poll/experiment in the media but we don't actually know how they reached that estimate.
- **Intellectual Growth:** Statistics are used all the time in everyday life. This class allows us to be able to interpret what these statistics actually mean
- **Quality:** I think that the homework assignments were a lot harder than anything we did in class.
- Student:23
- **Reason:**Major or minor requirement
- **Reason:**Exploration of possible major or minor
Additional Reason(s):
- **Effort:**I probably put in around 8 hours a week outside of class into this course. I read the posted notes and go through the PowerPoint slides on my own as well. I also do the extra practice when it's available.
- **Understanding & Appreciation:** I understand stats a lot better now. Before I came in with knowledge of more complex calculations, some of which we learned in the end of class, but now I have a strong understanding in th methods I.T takes to be able to get the accurate data to perform accurate statistical inference.
- **Intellectual Growth:** I could see this course impacting me positively in the work world. Thinking with statistics and using R also helped me with COSC and ECON courses.
- **Quality:** With a large class, Professor Cipolli did a remarkable job being available and explaining tough material as best he could to a wide range of understandings. I think HW problems more like exam questions would help in the future
- Student:24
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**This course started easy and ended up very challenging. I had to put many efforts in reading notes and doing exercise problem sets to understand the class materials.
- **Understanding & Appreciation:** This is a very good intro class for stats. It covers most basic knowledge, while the course also deepens in difficulty as it approaches the end.
- **Intellectual Growth:** I got a chance to learn about the logic and theories behind statistics.

- **Quality:** The instructor is really easy-going. He always tries to promote the contribution of all class participants. I like the idea of testing the students' understanding of the class material twice. I got the chance to see if I made any progress on the same topic as time passes. But there were too many tests.
- Student:25
- **Reason:**Major or minor requirement
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**I believe this course requires a lot of effort so I put in a lot of effort into this class . The homework assignments require a lot of time but they are definitely manageable. I also had to put a lot of time towards studying for tests in this class.
- **Understanding & Appreciation:** This course challenged me in many ways. It has helped me develop new critical thinking skills through completing homework assignments. It has challenged me to think in different ways and has helped me in figuring out the best ways to solve certain problems.
- **Intellectual Growth:** Statistics is very relevant to the real world so I believe this course was definitely beneficial to my life outside of the classroom.
- **Quality:** I really enjoyed having Professor Cipolli. It is obvious that he really cares about his students and their education. He gives a lot of examples in class to help us understand the material better and also is very open to contributions from anyone in the class.
- Student:26
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**This class definitely took some work, especially going back to review past material. However, we had ample time to complete all assignments so it was really just a question of time management.
- **Understanding & Appreciation:** I had very little knowledge of statistics before taking this class but I now feel that I will be able to apply what we learned to analyze statistics I observe in the real world.
- **Intellectual Growth:** This course required learning rather than memorization because each topic was tested twice.
- **Quality:** Professor Cipolli is a nice guy and really wants us to learn. However, he can be a little condescending in office hours. Other than that, I really enjoyed his teaching methods and how organized everything was, including the notes and powerpoints. He often planned on covering way more information in class than we actually did but the slower pace was good for making sure everyone understood. He tried to make the class not be just another boring lecture.
- Student:27
- **Reason:**Core or Areas of Inquiry (distribution) requirement
- **Reason:**Interest in the course material Additional Reason(s):

- **Effort:** I put a lot of effort into this course by completing every assignment and studying heavily for the exams .
- **Understanding & Appreciation:** It gave me a better view of what statistics is so this made me appreciate the course more.
- **Intellectual Growth:** I learned new ways to study and manage time based upon this class.
- **Quality:** I think the teacher was a very good teacher however he could have been more clear in class and prepared us for tests better and the type of questions you see on tests.
- Student:28
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I tried to do the best I could.
- **Understanding & Appreciation:** I don't think it helped very much. I do not like math as it is, so taking this course I knew wouldn't be great. I took it because I needed to for a requirement.
- **Intellectual Growth:** I don't think it helped with that very much. I learned a few things, and the professor is a very nice guy. Just don't think you can learn very much outside of math when you are learning math.
- **Quality:** The Professor was very nice and cared about the students. He always tried to get the class involved, and was great with emails and reminders about assignments, tests, and opportunities. I think that it's hard to get everyone in a lecture hall class to understand small details about math, especially when it's esrly in the morning. I think he could do a better job making sure everything is understood in the material before moving on.
- Student:29
- **Reason:**Other requirement Additional Reason(s):
- **Effort:**I attended all classes, completed all homework assignments and went to Professor Cipolii's office hours.
- **Understanding & Appreciation:** This course contributed to my understanding and appreciation of the course subject because I had not taken a math class since high school and I forgot how challenging math courses are and how different they are to my other courses for my major. Also, I previously understood little about statistics whereas now it is much clearer.
- **Intellectual Growth:** This course contributed to my intellectual growth or education because it forced me to think big picture and how to apply the problems we did in statistics to real world scenarios.
- **Quality:** Professor Cipolli is an amazing professor. He is extremely knowledgeable about the material at hand. He brings energy and passion into the classroom every morning even though it is not always reciprocated by the somewhat sleepy students. He continuously tries to improve his teaching through the weekly diagnostics asking for feedback and assessing how students are processing and understanding the material. His grading system is beyond fair and focuses on long term retention. For class time, he used numerous methods (slides, notes on the board, printed notes) that helped access all students.

- Student:30
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I go to tutoring sessions, read the chapter notes, and make sure to complete all the homeworks. I also make sure to take well organized notes and remain attentive all of class.
- **Understanding & Appreciation:** I learned how to critically examine statistics in the media and that are supplied in studies. I also am better at understanding how to accurately and effectively illustrate data sets.
- **Intellectual Growth:** The examples the professor used ranged from various subjects and were actual surveys that were conducted. So I learned about various other subjects in this class and background for why the outcome of the 2016 election was not accurately represented in studies, thus was not predicted.
- **Quality:** The classes were very interesting because of the examples that were used for each lesson. I think it could be useful to go more in depth into the chapter notes in class, because I felt like I had to learn information on my own that we did not extensively go over in class.
- Student:31
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I spent so much time on the homeworks because I had to reteach myself a lot of the subjects in order to complete them. I made study guides for each of the tests and did all of the extra problems provided before tests.
- **Understanding & Appreciation:** I now understand statistics but I don't like statistics That much so I don't really have a love for the course after taking it.
- **Intellectual Growth:** It helped me learn how to condense my thoughts into simplistic sentences for exams.
- **Quality:** At times this course made me very frustrated. I did not like how the homeworks were not due until usually the day before or the day of the exam... I wish that more time was spent in class going over some of the homework questions. As well, the homework questions did not line up with the format of the exams which I think could change and would probably improve test scores if they were of similar format. The homework did force me to learn the subject matter.
- Student:32
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I put a lot of effort into this course. Professor Cipolli was sometimes confusing and we often had to teach ourselves the material.
- **Understanding & Appreciation:** I am happy that I have a basic understanding of statistics now because it will help me in my next 3 years at Colgate.
- **Intellectual Growth:** I know how to apply statistics to real life situations.
- **Quality:** Professor Cipolli tried to be open to feedback and be an engaging professor but he had so many typos

on things that it was confusing and very frustrating. Almost every day there was a typo in the power point or in the notes so it was hard to learn the material when we were wondering whether or not it was written correctly.

- Student:33
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**I put in a lot of effort into this class. The way it is designed enforces students to really learn the material and remember it throughout the semester as it is retested. This was very tough and scary and frustrating as you could possibly destroy your whole grade by going from a 100
- **Understanding & Appreciation:** I appreciated the accuracy of statistics a lot more and recognized how to accurately assess them.
- **Intellectual Growth:** As above, it helped me with real life applications.
- **Quality:** Quality of teaching is good. Professor shows a great amount of care for students. However, I strongly disagree with the entire standards based grading system. Standards are fine as long as they are not retested, especially if one gets a perfect score on the first time, because they can only remain the same or go down, they can't improve.
- Student:34
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**This course contained challenging homework sets that took hours to complete, and a writing assignment that incorporated many of the chapters we learned. Study for exams also took a great deal of time.
- **Understanding & Appreciation:** It has helped me to understand the intricacies of statistics and how difficult it is to come up with them.
- **Intellectual Growth:** It has helped me to understand what I am looking at in the outside world when I see a statistic and what it means to me.
- **Quality:** This course work is very hard, but Prof. Cipolli has worked extremely hard to create an environment where every student is able to learn the material.
- Student:35
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I would start studying two days before exams and made sure to finish my homework to the best of my ability.
- **Understanding & Appreciation:** This course introduced statistics and their importance.
- **Intellectual Growth:** I now know more about statistics than I ever have.
- **Quality:** I thought his teaching style was good and easy to understand. However, sometimes his lectures were repetitive and boring
- Student:36

- **Reason:**Other requirement Additional Reason(s):
- **Effort:**I put forth maximum effort in this course. With completing everything on time and to the best of my ability, I am able to understand the material being taught.
- **Understanding & Appreciation:** There were a lot of ways to understand the material if you didn't understand it in a lecture. There were review sessions almost every week, his office hours were always available etc. which gave everyone the opportunity to understand and appreciate this course.
- **Intellectual Growth:** I am now able to understand the true meaning of statistics and how it is used everyday almost. There are many things in life outside of the classroom that I can relate to this course, which contributes and also broadens my knowledge about this course subject.
- **Quality:** Overall, this professor is amazing! By the way he teaches, you can tell that he is never bored with the material. In fact, he even says that many subjects in this course are his favorite and that he cannot wait to teach it to us. Some strengths about him is that he is very accessible via moodle, email, office hours and review sessions. He does his best to make sure that everyone succeeds in the classroom.
- Student:37
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I reviewed the material continuously, did the extra opportunities, and asked for help when needed. Also came to class.
- **Understanding & Appreciation:** This course gave me a better understanding of statistics which I had never learned before. It also showed me how integral stats is to a wide variety of other subjects.
- **Intellectual Growth:** This course demonstrated that stats presented in the news or other places should be looked at critically and that people should be more aware of what makes up good statistics.
- **Quality:** Professor was extremely accessible and willing to help/listen to students. He was very good at explaining concepts and making sure all levels of experience with stats would be challenged but not lost. Made a great effort at getting a class of 75 people to be more of a discussion and succeeded to a certain point with that goal. Weaknesses would be occasional spelling errors on homeworks and notes that could make understanding the question difficult.
- Student:38
- **Reason:**Other requirement Additional Reason(s):
- **Effort:**I put a fair amount of effort into the course. I made sure to do all the assignments on time and study for the tests. I put in the amount of effort that I thought it would take for me to do well.
- **Understanding & Appreciation:** This course taught me a lot about the course subject that I didn't know before so in that way it increased my understanding. It contributed to my appreciation for statistics because you encounter them a lot in everyday life.

- **Intellectual Growth:** It helped me apply information I learn in class to the real world. Learned to think about class information in a broader context.
- **Quality:** I think Professor Cipolli did a good job teaching this course. I think because it was such a big class he really tried to make the pace okay for everyone even though it was too fast for some and too slow for others. You could also tell that even though it is early and not a subject a lot of people are interesting in he tried to make the class interesting and fun. Also, while I didn't really go, it was clear he tried to make himself accessible for questions and whatnot. One issue with that though is that some of his review sessions were at bad times– I know a lot of people couldn't go to them because they had class at that time.
- Student:39
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**For this class I would always come prepared with the notes printed and attended several office hours and recitations. For exams I would study with friends for multiple hours and study off of our old exams to improve on what I did wrong .
- **Understanding & Appreciation:** I took AP stats in high school and Cipolli's class was far better and more interesting. Here, I was actually able to understand what I learned and how it was all related / why it was important. That is something that I did not get from my AP stats class in high school.
- **Intellectual Growth:** Cipolli taught me the importance of starting assignments early so that if you were confused you could seek help from outside sources.
- **Quality:** Cipolli is a great professor who is very passionate about the subject matter. Despite our class being a little tired in the mornings and at times mute, he continued to give enthusiastic lectures. Furthermore, Professor Cipolli was always available for office hours and could always help to make things clear that I was a little foggy on. I would say a flaw of this course is the students who don't come to every class because it is a lecture and they think they can get away with it (though I do think this is reflective in their grade).
- Student:40
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I put an average amount of effort into this class, I did what was required of me but did not go above and beyond that.
- **Understanding & Appreciation:** This course helped me learn the basics of statistics and how to use R if the code is provided to me. It has also helped me gain a better understanding of how statistics are used in publications and real world applications. However I do not feel as though I was taught how to effectively apply these statistical methods on my own.
- **Intellectual Growth:** It helped me become more punctual with deadlines.

- **Quality:** I think that Professor Cipolli has some great teaching moments and some that are not so great. In terms of grading, his standards have a great idea behind them in that you get a second chance to be able to improve upon your grade in a certain aspect of the course, which is a great help, however this does make the tests more difficult to prepare for and more stressful the second time you see a standard as they are worth more. Another area where there is a great idea but poor execution is in the way the course is structured, we review constantly in class what we have done previously, which is great because we get to know the material better, however I feel like we have learnt less material than anticipated because of how slowly the pace of the course has been moving with all of this review.
- Student:41
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I put a lot of effort into studying and preparing for exams.
- **Understanding & Appreciation:** I have learned to better analyze statistics, especially when presented in polls and surveys in the news.
- **Intellectual Growth:** Being able to understand statistics aids greatly with many other subjects. The research methods also prepared me greatly for other research projects.
- **Quality:** Professor Cipolli is a very good lecture and does very well given the size of the class. He is very accessible during office hours and truly makes it seem like he cares for all his students. He always responds to emails and Moodle posts very fast, making communication easy despite the amount of students in one class.
- Student:42
- **Reason:**Major or minor requirement
- **Reason:**Exploration of possible major or minor
- **Reason:**Core or Areas of Inquiry (distribution) requirement
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**I never actually took Statistics in high school, so this class is very new to me. I had to print out notes just to be able to keep up with that class.
- **Understanding & Appreciation:** The course contributed to my understanding and appreciation of the sl course subjects because it made me realize the errors that appears in news especially during political campaigns l.
- **Intellectual Growth:** I learned that statistics can be applied in almost all aspect of information and everyday lives.
- **Quality:** I really love the enthusiasm and compassion of Professor. Cipolli. He makes the class bright up with his personal life jokes especially on Mondays.
- Student:43

- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I put a lot of effort into this course and came to all the classes.
- **Understanding & Appreciation:** I have definitely been able to use what I learned in this course in others subjects as well as been able to successfully apply it to real life, which makes me really appreciate what I have been learning.
- **Intellectual Growth:** It really helped my intellectual growth as I now am able to apply a lot of statistics to other areas of thinking that help me learn better and easier.
- **Quality:** Very considerate teacher, who is always prepared. The frequent emails are very nice, and he spends a lot of time working for this class. I have never had professor or teacher who has put so much time and effort into a course before. Very articulate and knowledgable, but spends a lot of time breaking things down so everyone can understand. Writing is also very legible and neat. I have no critiques for this course.
- Student:44
- **Reason:**Major or minor requirement
- **Reason:**Interest in the course material Additional Reason(s):
- **Effort:**I put in a lot of effort to reading the notes and reviewing previous exams to prepare for tests .
- **Understanding & Appreciation:** It helped create a framework for statistics and increase my knowledge even further.
- **Intellectual Growth:** It helped me remember everything we learned over the semester instead of taking an exam and forgetting it once you finish. Each test built off the previous one.
- **Quality:** I think a strength of Cipolli is through his attitude in presenting which allows the class to be attentive even though we had a quiet class. I would consider just simply doing more problems out on the board.
- Student:45
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I put effort into this course by following along with the notes, doing the weekly diagnostic, completing online homework, and studying for tests.
- **Understanding & Appreciation:** I knew very little about statistics before this course, and I now feel like I have a firm understanding of the basics of statistics.
- **Intellectual Growth:** This course has allowed me to think critically about statistics that we hear in the news, so I am better able to recognize misleading headlines and articles which cite statistics incorrectly or in a deceiving manner.
- **Quality:** I think Professor Cipolli did a good job in thoroughly explaining the material and was very accessible when I needed help. If I were to change one thing, it would be the class size, which I know isn't in his control. I think it would have been easier to have discussions and people would have been more willing to ask questions

if the class were smaller.

- Student:46
 - **Reason:**Core or Areas of Inquiry (distribution) requirement
 - **Reason:**Interest in the course material Additional Reason(s):
 - **Effort:**I put great effort into this course when preparing for exams and completing the homework.
 - **Understanding & Appreciation:** It helped me learn the basics of statistics and why we use them.
 - **Intellectual Growth:** It helped me grow as a math student.
 - **Quality:** I believe that the teaching of this course was not as helpful as learning the material on my own. I believe that the class lectures were very repetitive with the same examples but important information was spread throughout so it was important to go to class. I do think that the professor displayed a great sense of knowledge for the material and he was very good at one on one teaching. I think that the material itself could have been presented better in class for a better understanding in order to learn it.
- Student:47
 - **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
 - **Effort:**I put a lot of effort into this class. I spent a lot of time on the homework and studying to prepare myself for exams.
 - **Understanding & Appreciation:** This course contributed to my understanding of the course subject greatly. I took statistics only to fill an area of inquiry, and I had never taken a stats class before or had a desire to. However, I enjoyed this class a lot, and was happy with how well I performed in it. It gave me a new appreciation for math classes and statistics in particular.
 - **Intellectual Growth:** This course pushed me outside of my comfort zone a lot. I am not comfortable with math or science classes, so I had to make a conscious effort to go to office hours, review the class notes and study, and to get help if I needed it. It helped me improve my critical thinking skills gave me a greater understanding of real world uses of statistics.
 - **Quality:** I think the quality of teaching in this course was extremely high. I can imagine it is difficult to teach a lecture-style class of 75 students, but Professor Cipolli always made a strong effort to make it interesting, entertaining, and engaging. I also have never had a professor that was so engaged with students on Moodle, in office hours, and in review sessions. He really made an effort to be there to help students if they needed it.
- Student:48
 - **Reason:**Major or minor requirement Additional Reason(s):
 - **Effort:**I put in a lot more effort than I originally thought I would have to. I'm honestly not doing as well as I had hoped despite attending every lecture, utilizing tutor sessions, and attending office hours.
 - **Understanding & Appreciation:** Statistics are used in many everyday life experiences, especially in research

papers I read for my economics classes. Having a deeper understanding of how they work and how they can be misleading has helped me better interpret data.

- **Intellectual Growth:** Professor Cipolli was extremely accessible and this taught me how to utilize professors outside of the classroom.
- **Quality:** I think Professor Cipolli did a great job making this class interesting while still catering to the needs of each individual student. I really wouldn't change anything about Professor Cipolli's class and couldn't imagine a better Professor to teach this material.
- Student:49
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I put in a comfortable yet consistent amount of effort for this course. Each week I reviewed my notes to complete our weekly "diagnostic" surveys. I also would put about 3 hours of work into every homework assignment we had as well as about 4 hours of studying for each exam. I also went to office hours on a few occasions for extra help and review.
- **Understanding & Appreciation:** Before taking this course, I had taken a few math classes at Colgate, but never a statistic course. This course therefore introduced me to the purpose of statistics as well as statistical methods. I now feel that when I see stats in the news, I better understand what I am reading which makes me appreciated statistics more.
- **Intellectual Growth:** This course helped me work independently in order to solve problems and further exposed me to interdisciplinary thinking. I think that by applying mathematics to numerous examples has allowed me to better apply what I learn in class to actual situations that I will encounter.
- **Quality:** Professor Cipolli has demonstrated that he is very passionate about statistics and truly does want us to learn. I think that he has outlined an exceptionally fair, yet effective approach for allowing us to learn statistics through his testing methods. I do think that the lectures were sometimes hard to follow, but Professor Cipolli had so many opportunities to meet him in office hours or go to tutoring hours, and the material was always better cleared up in these settings. Homeworks seemed a little repetitive sometimes, and I think that maybe having shorter written homeworks would have helped me better understand material. That being said I am overall satisfied with the quality of teaching in this course.
- Student:50
- **Reason:**Major or minor requirement
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I would say I gave 75I could ahem utilized the tutoring and review sessions more.
- **Understanding & Appreciation:** I feel like I know a lot more about statistics and how they are used and collected, so in that respect my understanding is well-rounded. I don't have a new appreciation for statistics

but I feel like once I take more Economics classes it will come into play.

- **Intellectual Growth:** It actually worked really well to take this class with Microeconomics. Has a Economics major, this class really helped me grow in my education and my understanding of the topic.
- **Quality:** I think that Professor Cipolli was extremely energetic, accessible, and engaged. He did his best to keep the class relevant and upbeat, even when the class was silent. The only thing I would say is making the grading policy more clear. I like the way the standards were set up but it was sometimes unclear why I would get questions wrong or right.
- Student:51
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I put in the amount of effort for which it would not have been more beneficial to keep studying .
- **Understanding & Appreciation:** Having never taken a stats course I can now say that I appreciate and understand the subject. While it was a requirement for my major, I believe almost every college student should take this class at some point due to its applicability in everyday life.
- **Intellectual Growth:** The course significantly contributed to my intellect growth and education outside of our class stats. Taking courses based in economics and chemistry, knowing first hand the statistics that revolve around both subjects are very important and beneficial to my understanding in those classes.
- **Quality:** Strengths: The professor was extremely approachable and friendly nature and clearly wanted the students to both learn and participate in class. He truly enjoyed what he was teaching and wanted others to both learn in this class and take future statistics courses. Also, the grading for this class was extremely different but was understandable and was clearly designed to help students by promoting the continuation of learning which was generous and an intelligent design. Homework assignments were fair and there was adequate amount of time given to complete assignments as well as study for test. Weaknesses: One inconvenience I found was the time for the office hours. Due to my course schedule I often found it impossible to go to the office hours to ask any questions that I had regarding a test or a homework. Additionally, at the beginning of the year the professor complained about powerpoint and said he would do a majority of the teaching and examples on the chalkboard. Sadly, this was not the case as the majority of class time was the explanation of the slides found on the powerpoint with only one or two in depth examples given per class. Increasing the number of examples on the board would be very beneficial and significant help students understand the types of answers the professor is looking for on his standard exams throughout the semester.
- Student:52
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I put in much effort for this course due to the fact that it is a subject outside my comfort zone and therefore it challenged me greatly.

- **Understanding & Appreciation:** By using real life examples in order to reach the math, I was able to see how stats is applied rather than simply its theory.
- **Intellectual Growth:** Professor Cipolli made sure to include examples that were relevant and therefore being to light some issues I had never thought of before. For example, we talked extensively about how news outlets oftentimes report statistics that are misleading, and it is important to question these numbers.
- **Quality:** Professor Cipolli is a fantastic teacher. He is accessible, friendly, helpful and tries his best to ensure that all of his students are doing well.
- Student:53
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**As it was a math course (a subject i know i am not as strong in) i worked harder than usual to make sure i was successful.
- **Understanding & Appreciation:** I have a new appreciation for statistics, as it isnt as scary as other math courses.
- **Intellectual Growth:** Statistics forces you to think in a very contextual lens. I am more comfortable with both analytical and critical thinking as a result of this class.
- **Quality:** Cipolli is a good professor also a very good person. I think with a class this size you will always struggle to increase class participation. Breaking up the class into small groups more often may help this. Sometimes i felt as if the class needed to ask very specific questions as the professor did not explain certain concepts clearly enough. I think small groups would help this as well.
- Student:54
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**read the notes, showed up to class atleast twice a week, and did the homework early enough to ask the professor questions if I had any problems with it.
- **Understanding & Appreciation:** This course enhanced my understanding greatly. I took ap stat in highschool, creating a foundation for statistics. This course built off that.
- **Intellectual Growth:** It helped me apply statistics to real-life problems and examples
- **Quality:** Professor Cipolli is wonderful. It is difficult to harness the classes attention when its a lecture style math course with 70 something students, but he does his best. He puts immense effort into making the class interesting and fun rather than just boring math. I would definitely recommend this course to my peers and would take another course with Professor Cipolli if I was a math minor/major.
- Student:55
- **Reason:**Other requirement Additional Reason(s): Possible graduate school pre-requisite.
- **Effort:**I put a decent amount of effort into this course. Outside of class, I reread all of the notes and attempted

the extra problems.

- **Understanding & Appreciation:** This course made me realize that statistics is a part of so many aspects of our lives. We come into contact with some form of statistics every single day.
- **Intellectual Growth:** This course helped my critical thinking skills and improved my ability to apply concepts to life events.
- **Quality:** Professor Cipolli was excellent overall. A lecture of 75 students is not easy to teach but he did his best to keep the class engaged and entertained while teaching. He was great at getting grades back in minimal time and was very available to us for help outside of class.
- Student:56
- **Reason:**Core or Areas of Inquiry (distribution) requirement Additional Reason(s):
- **Effort:**I came to nearly every single class, took excessive notes, read all of the chapters and created a strong study guide for each test.
- **Understanding & Appreciation:** I didn't like math before I took this class, and I still don't like math. I can now appreciate when I see statistics on TV, but that has never been a concern for me so I really just took this class because I needed to. I have gained a broader understanding, but have struggled to keep up as the class pace increased so I can't exactly say I have an in depth understanding. I definitely spent more time frustrated than appreciative of stats.
- **Intellectual Growth:** It's always been important to me to challenge myself, and this class was definitely outside of my comfort zone. I learned how to take notes and make study guides in a new way.
- **Quality:** Professor Cipolli is a great professor and a great guy, but in a class this big it's really difficult to keep the pace at such that everyone can keep up. His strengths are his ability to lecture in a fun, engaging way. I would say his weaknesses are facilitating class discussion and teaching how to ask the right questions, because often times I'm so lost I don't even know where to begin asking.
- Student:57
- **Reason:**Major or minor requirement Additional Reason(s):
- **Effort:**I feel that I put a great deal of effort into this class. Whether it be completing homework assignments ahead of time, going to office hours/tutoring sessions to better understand class material, or studying hard for tests I feel that I tried very hard to succeed in this class.
- **Understanding & Appreciation:** I have certainly grown to appreciate the field of statistics as a result of taking this class. I now understand the importance of having a solid base of knowledge in statistics, and understand how I can apply this knowledge effectively in my everyday life.
- **Intellectual Growth:** I feel that through taking this course, I have become better prepared to analyze statistics in the real world, and apply what I have learned to things such as daily news.

- **Quality:** I feel that Professor Cipolli cared a great deal about communicating class materials to us in the most effective manner as possible. I could tell that he wanted all of us to succeed, and that he was committed to creating the best classroom environment that he possibly could.

MATH 316: Probability

Fall 2016: Section A

- Student 1
 - **Reason:** Elective outside major or minor
 - **Effort:** I studied for all the tests and worked hard for all the homework but could have gone to office hours more
 - **Understanding & Appreciation:** The subject is extremely interesting to me, because I am interested in Data science and it is really relevant to that
 - **Intellectual Growth:** I will likely be using information from this course in my research next semester so it is really relevant
 - **Quality:** He worked extremely hard for this course. Everything was graded extremely fast. It felt like he spent too much time on the easier stuff at the beginning of the semester and then by the end of the semester he didn't have enough time for the more difficult topics. So I think in the future he could speed up the course in the beginning of the semester to allow for more time on the harder topics. The last HW, in particular, seems at little forced considering the notes were released 3 days before it was due and we didn't learn a lot of what's on it until 2 days before it was due. I really liked having the notes available. I would not print them out and take notes in a notebook in class. Then could review them along with the textbook after I heard it for the first time.
- Student 2
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I spent a bunch of time reading both his notes and the textbook, and also doing the homework and studying for the tests.
 - **Understanding & Appreciation:** Taking this course showed me what probability actually is and how is done with math and why its important.
 - **Quality:** I thought he did a great job teaching. Everything was very clear and instructive, he is the quickest grader I've ever had at this school, he was always around and willing to help and answer any questions about the material and was just a great person to have as a professor and everyone loves him.
- Student 3

- **Reason:** Major or minor requirement
 - **Effort:** I put forth genuine effort throughout the semester. I completed all homework assignments and thoroughly reviewed the notes and past examples for exams.
 - **Understanding & Appreciation:** The course helped me gain a greater appreciation for applying probability in the real world. I was able to learn the theory while still learning about real world examples.
 - **Intellectual Growth:** The course improved my organization skills given the professors high standards for homework assignments and tests. I learned to be clear in explaining my answers.
 - **Quality:** The professor is very passionate about the subject and has a strong background in the field. He is able to explain complex concepts with ease and is good at getting the students involved. The professor's method of typing up most of the notes was effective. His lengthy homework assignments helped when preparing for the exams. He was also always accessible.
- o Student 4
- **Reason:** Elective outside major or minor
 - **Effort:** I attended every class with only a few absences. For every test and every homework assignment, I would spend hours review and re-reading the notes and textbook to understand the material.
 - **Understanding & Appreciation:** While I struggle to keep up with the course, it still has contributed greatly to my understanding of probability and statistics and how these subjects are used in real-world applications. This is most apparent in our examples or homework problems where you can see where a probability distribution is used and how you interpret that.
 - **Intellectual Growth:** Time management and actively seeking help when you need it, I would say, are the two most important skills or traits that you would learn from this course beyond the course subject.
 - **Quality:** Professor Cipolli has taken great steps to ensure that every student has the tools they need to succeed in his class. It is obvious just from attending class that he spends a great deal of thought and time planning his lectures, grading assignments, and crafting the class notes. Most of his examples are both informative and interesting and he definitely accomplishes a great deal when simplifying the Cassela-Berger textbook in his own notes. His personality is a breath of fresh air and he is remarkably accessible and easy to talk to. I wish I had made the time to go office hours more. The only weaknesses I can think of are circumstantial. By that I mean, I feel that the course moves a little too quick for comfort sometimes and escalates at bizarre intervals. One day, we might be spending our 3rd class in a row going over calculus and then the next day it feels like we've moved on 2 chapters. The tests are difficult, for me. While I know other students are doing fine, I find that the homeworks are, contrary to his reassurances, much more difficult than the homeworks. Maybe easier tests or harder homeworks would be nice? His last weakness are his jokes. (I'm kidding. They're pretty funny.)

- Student 5
 - **Reason:** Major or minor requirement; Reputation of the instructor; Interest in the course material
 - **Effort:** This class required a lot of work to be put into homeworks, but these prepared me for the exams quite well, so there was less study time when it came to exams.
 - **Understanding & Appreciation:** Professor Cipolli put the problems and material we learned in real world context, so it was easy to see the applications of what we learned even in a theory based course. By doing this, it is easier to appreciate and understand the subject in a greater view.
 - **Intellectual Growth:** This course furthered my ability to approach problems analytically and systematically. It is very different from most math courses in the sense that some of the material is slightly more abstract and theory based.
 - **Quality:** Great Professor, very clear, very willing to help his students succeed, and very accommodating to having extra office hours. He definitely puts a lot of effort into writing notes for us and giving back assignments incredibly quickly . I really appreciate his commitment to the course and his students.
- Student 6
 - **Reason:** Major or minor requirement; Elective within major or minor; Interest in the course material
 - **Effort:** I put in twice a weekly to do assignments and additional studies for exam.
 - **Understanding & Appreciation:** Conceptual learning on the probabilistic problems
 - **Intellectual Growth:** It had me think in terms of probability more outside the context of math.
 - **Quality:** Emphasis on learning is great, but handout materials are in working progress, hence more typos than what he would want
- Student 7
 - **Reason:** Major or minor requirement
 - **Effort:** I spent a fair amount of time on the homework in the class. I felt like the homework did a great job preparing me for the exam so when the exams came around I only had to do minimal revision.
 - **Understanding & Appreciation:** I took this course for a major requirement.
 - **Intellectual Growth:** The course was useful in helping me with interview questions. Many interviews that I had asked questions about conditional probability and having an understanding from the course definitely helped.
 - **Quality:** Professor Cipolli was a pretty good professor. I felt like the material in the course was presented in a relatively clear manor but the frequent typos and delays on the notes was slightly annoying. The notes were, however, very helpful throughout the course. The professor was also open to questions and had plentiful office hours. Overall, I have no complainants about the quality of teaching. I think Professor Cipolli did a pretty good job.

○ Student 8

- **Reason:** Major or minor requirement; Exploration of possible major or minor; Elective within major or minor; Interest in the course material
- **Effort:** I didn't work that hard at the beginning, but as the material became more difficult I began to put in a good amount of effort.
- **Understanding & Appreciation:** I already had some experience with probability and statistics, but this course has pushed me well past my previous understanding and appreciation. The professor did a good job of making this course interesting and useful to students with different backgrounds.
- **Intellectual Growth:** This course has improved my intellectual growth in general because we learned various ways that probability and statistics can be used. We discussed various fields of study in this mathematics course.
- **Quality:** Strengths – good at conveying the information in a unique and interesting way, kept me engaged with humor, the homework was often great preparation for exams, and the professor was available to help outside of class. Weaknesses – the tests varied in difficulty and it was sometimes hard to prepare for that. Overall – the class was taught very well and I plan to take Math 317 with the same professor next semester

○ Student 9

- **Reason:** Elective within major or minor; Elective outside major or minor; Reputation of the instructor; Interest in the course material
- **Effort:** A LOT of work. I have literally spent entire days on Professor Cipolli's problem sets, and I always took a lot of time to study before exams.
- **Understanding & Appreciation:** Professor Cipolli explained some very complex concepts in interesting and understandable ways. I did not have much background in this area before but now I definitely do.
- **Intellectual Growth:** This course contributed greatly to my quantitative reasoning skills. Also forced me to brush up on calculus (to mixed degrees of success). Will be helpful for future work in mathematical economics.
- **Quality:** Professor Cipolli is a wonderful human being. I've heard peers (and myself) variously describing him as a genius with a cool-high-school-math-teacher vibe, a force of nature, a well-oiled German machinery, and a runway model. He made a very intimidating topic very approachable, thanks to his effective methods in lectures and in office hours, and thank god for his notes. He is also super efficient and organised, and it was a wonder if he did not have assignments or exams fully graded by the following class. His fun personality and quirky sense of humor also made classes a joy. The online discussion requirement was kind of a pain, but that's probably the only gripe. Please give this guy tenure.

○ Student 10

- **Reason:** Elective within major or minor
- Student 11
 - **Reason:** Major or minor requirement
 - **Effort:** I put a decent amount of effort in my home works, reviewing notes and our class discussion forum as I went along and making sure that I understood what I was doing. This was enough too prepare me to prepare me for the tests for the most part.
 - **Understanding & Appreciation:** Probability is definitely more theoretical than I thought before taking the course. I can definitely see its use cases though, and the few examples in class really helped me realize the potential of all the theory we were learning.
 - **Intellectual Growth:** It taught me to learn from my peers.
 - **Quality:** Professor Cipolli is an amazing teacher, dedicated to making sure that students learn. He is definitely enthusiastic about the subject matter and genuinely finds it interesting. This really helps when covering boring sections, where he'll try to keep the class interested by talking about he he found it relevant in real life or by just keeping the class lighthearted. He is also extremely helpful in office hours and is definitely one of the more accessible professors here. All in all 10/10, I think he nailed it.
- Student 12
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Effort:** The homework is always harder than the exams which will take me lots of time.
 - **Understanding & Appreciation:** Since this class is more conceptual, it gave me some basic concepts and ideas of probability problems and distributions.
 - **Intellectual Growth:** As the preparation for MATH 317, it gave basic ideas and concepts which will be used later maybe in real life problems.
 - **Quality:** Professor really cares about students since he asked for a survey every time after an exam. The notes are well formed and are easier to understand compared to the book. Examples are extremely helpful to understand the material.
- Student 13
 - **Reason:** Interest in the course material
 - **Effort:** I completed all assignments and went to office hours frequently when I didn't understand something
 - **Understanding & Appreciation:** I see economics models and other models also as relating to probability theory, as I think what I learned in this class is very applicable to other subject areas.
 - **Intellectual Growth:** I now think more critically about different problems and concepts in a way I didn't before.

- **Quality:** I thought the Professor made class entertaining with his jokes and also welcoming all questions. However, I think the moodle posts should either be required every week or else not be graded.
- Student 14
 - **Reason:** Major or minor requirement; Interest in the course material
 - **Effort:** I put a decent amount of effort into this course. However, this course was much less demanding/difficult than any other math course I've taken at Colgate (including 113). I think that the main issue in this class is that it was too easy.
 - **Understanding & Appreciation:** I felt like I learned the material so that I could answer most questions. However, I feel like there can be more emphasis on giving an intuition about the formulas we derive.
 - **Intellectual Growth:** Probability theory is one of those subjects that's applicable in tons of places outside of the class room. Helps you evaluate probabilities of things happening, and its actually been useful in my research.
 - **Quality:** Professor Cipolli is a good lecturer, and I really like his style of giving class notes before hand. The class was well structured and well taught, and class was usually interesting. I really liked the theoretical aspect of the course, and actually enjoyed the examples much less than the theory. Professor Cipolli is attentive to class needs, and is good about gathering and responding to student comments/suggestions. That said, you will not get honest answers from students if you ask them about the difficulty of the course . I know from talking to other students that many people think the course is far too easy. However, no student is going to tell the professor that while they're taking the course. It is certainly the easiest math course I have ever taken at Colgate by a long shot. Mainly, the problems are repetitive and are often not particularly challenging. I would have liked more theoretical homework problems involving more proofs and derivations. Tests should also be more difficult.
- Student 15
 - **Reason:** Major or minor requirement
 - **Effort:** I put a lot of time and effort into this course
 - **Understanding & Appreciation:** Significantly contributed to my understanding of the material. Enjoyed this class more than any math class I have taken due to both subject matter and professor
 - **Intellectual Growth:** Helped me develop my study skills further, especially since it was a difficult class
 - **Quality:** Professor Cipolli was great. Helpful and extremely accessible. Lectures were very good, although they could be a little dry at times but overall the teaching was excellent
- Student 16
 - **Reason:** Major or minor requirement
 - **Effort:** This was one of my easier math courses, however, it was extremely interesting and the work load

was pretty good so I definitely had to put in effort there. I also went to office hours when I was unclear on a topic. Overall I would say I put a good amount of work into this class, but being one of the more manageable work loads and easier conceptually, it often took a backseat to my other courses.

- **Understanding & Appreciation:** I really enjoyed the course. I think the professor does a great job of inspiring interest in the subject with his effort and use of real world examples. It allows you to see how important these topics are and applicable to the real world.
 - **Intellectual Growth:** This class helped again with application of math and has helped continue my appreciation for math and reinforce my desire to work in this field.
 - **Quality:** The professor for his first semester here did a great job. He was interesting and enthusiastic and conveyed material very clearly. I really enjoyed the use of R, even though it was kind of a pain in the butt, because that is how these subjects are actually carried out in the real world, thus his knowledge of the industry side was helpful. His work load was fair as was his grading. It was a little slower than some of the other math courses, but this also may have been due to the diversity of major backgrounds among students in this course taking their first theory class. Overall, very clear and very willing to learn as a professor, kept checking in throughout the semester to see how the class was doing, so that he could adjust within the semester, not waiting until the end.
- Student 17
 - **Reason:** Major or minor requirement
 - **Effort:** Attend every class, finish homework and exams.
 - **Understanding & Appreciation:** I have understood probability in a better way and it is interesting to see how to apply all these toolkits in the real life situation.
 - **Intellectual Growth:** I have also learned how to use calculus as a very useful tool to solve problem.
 - **Quality:** Prof Cipolli is a very funny person. He is also very nice and approachable.
 - Student 18
 - **Reason:** Major or minor requirement; Elective within major or minor
 - **Effort:** I put in a great deal of effort. Doing the homeworks was pretty challenging and took a lot of time
 - **Understanding & Appreciation:** I feel like I have a strong grasp of probability theory
 - **Intellectual Growth:** Besides probability this class was also a strong revision of calculus
 - **Quality:** Professor Cipolli is very organized which I think is really important. The lecture notes are a good proof of that. Class is always interesting and fun. He always graded and returned our exams and homeworks as soon as possible so I was able to understand my mistakes rather than him returning them really late and me not understand what's going on. I thought he was a great professor overall
 - Student 19

- **Reason:** Interest in the course material
 - **Effort:** Read the notes after class, and finish homework assignments.
 - **Understanding & Appreciation:** Knowing probability is much more complicated than calculating a probability of an event. Understanding probability in a statistician way.
 - **Quality:** Professor Cipolli always make the class fun.
- Student 20
- **Reason:** Major or minor requirement
 - **Effort:** I spend about 4 hours to do every homework
 - **Understanding & Appreciation:** I understood some basic concepts of probability
 - **Intellectual Growth:** I might take more advanced level probability class in the future
 - **Quality:** I think the teaching quality is ok. The professor tried to present the material clearly and interestingly. However for some reason his lecture is a bit hard to understand.
- Student 21
- **Reason:** Major or minor requirement; Interest in the course material
 - **Effort:** I put in a lot of effort in the course by studying a lot, attending office hours often, and putting a lot of care into homework assignments
 - **Understanding & Appreciation:** I always thought probability was just the probability of events but it was so much more than I knew existed
 - **Intellectual Growth:** I realized I really liked applied math and statistics and it inspired me to continue studying the subject matter next semester
 - **Quality:** Professor Cipolli genuinely cares about his students and I really like how he gives us printed notes so that we can pay attention in class rather than scrambling to write everything down. I like how the homework is good preparation for tests, and how there were a lot of tests to ensure we were keeping up with the material. As for weakness, I don't like how there is a grade for posting on the Moodle discussion board, as I don't see how that indicates anything about our knowledge of Probability, and definitely lead to people posting on the forum for the sake of the grade.
- Student 22
- **Reason:** Major or minor requirement; Elective within major or minor; Interest in the course material
 - **Effort:** Moderate – Weekly problem sets, reading discussion forum, some extra reading
 - **Understanding & Appreciation:** I had never taken an introductory stats class, so this was a rapid introduction to some of the basic concepts.
 - **Intellectual Growth:** My senior thesis is based in probability and statistics, so I was glad to have a class in the same semester

- **Quality:** Will is extremely accessible and transparent in his teaching. He was well prepared for lectures, and he returned assignments and exams unbelievably quickly. Having typed up lecture notes on moodle was extremely useful, and helped clarify some of the notation used in class. My only complaint would be that grades on homework were a little unclear, and that assigning 1.25 points per question makes deducting points a little more difficult. Perhaps scaling the points to 50/100 would make grading/pointing out mistakes more clear.
- o Student 23
 - **Reason:** Major or minor requirement
 - **Effort:** I attended all the classes, handed in homework, and reviewed before the exams.
 - **Understanding & Appreciation:** This course gives me more understanding of applied side of mathematics, also provides me with basic concepts about statistics and data.
 - **Intellectual Growth:** I was able to view data from a more critical perspective.
 - **Quality:** Professor Cipolli is good, he provides very clear class notes, and reasonable tests and homework. He sometimes makes little mistakes in class, it will be great if he can check those tiny errors before presenting.
- o Student 24
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 - **Reason:** Major or minor requirement
 - **Effort:** I spent about 5-10 hours on each homework assignment which included reading the notes and making sure I understood the topic before completing the assignment. I studied for at least that much for the exams.
 - **Understanding & Appreciation:** Math is fun
 - **Intellectual Growth:** It definitely helped with my problem solving and analytical skills as some of the homework questions were very challenging and not quite straight forward.
 - **Quality:** Professor Cipolli is a great professor and I'm glad he is at Colgate. He is engaging and explains everything clearly. He is also very accessible for help which shows a dedication to his students. His grading was the only weakness but it wasn't terrible, just unclear. He also gives us all surveys after each exam to make sure that we are all satisfied with his pace, which is great and shows how much he cares again. Overall I've really enjoyed this semester with him and hope other students get a chance to learn from him.

Fall 2017: Section A

- o Student 1
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I spent about 20 hours on each homework, including working on my own and going to office hours. I

spent a couple hours preparing for each exam.

- **Understanding & Appreciation:** The questions in homework and examples in class are interesting, not too abstract. I also saw the connections between probability and calculus, and other areas in math.
 - **Intellectual Growth:** I am now able to think about many probability scenarios in life in ways that I had not been able to.
 - **Quality:** Quality: I can tell that Prof. Cipolli tried hard to make the course interesting and be accessible to students. Yet I think the success is limited in certain aspects, for many reasons. He made TOO MANY MISTAKES instructing in class and drafting questions for homework, to the extent that class time was always wasted on us pointing out his mistakes, and homework time was always wasted on us struggling with unsolvable problems and then going to his office hours to correct them. He was not always helpful during office hours because he would not look at his solution sheets when he forgot how to do certain problems, and we, for many times, wasted a ton of time on one or two not very complicated problems. His office hours are scheduled in a way that students who take class in a certain period would never be able to attend. He scheduled all his exams for all his classes during the same weeks, so it was extremely difficult to find time to talk with him around those times. He used google calendar for appointment scheduling, which was not effective because a couple times two of us booked the same times! What he did was to let one student use up the entire time slot and the other just sit there waiting (from 8:30-9:00 in the morning!!) Even though he apologized in the end, it was very frustrating and unfair. He spent months getting back to me about one homework problem that I had a different solution than his own. He could have managed his time a lot better, because "being busy" is an excuse – everyone is busy!!
- Student 2
- **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** Too much. This class and its tendency to give 24hr long assignments in a single week took away time I needed for other classes.
 - **Understanding & Appreciation:** I thought all I really needed to know went by in the first chapter but from then on, nothing seemed integral or of any applicable interest to a non-statistician.
 - **Intellectual Growth:** It made me realize that at times its necessary to stop pouring all focus on an exam or homework and spread out my attention to other assignments whether or not the ones for this class were done.
 - **Quality:** The teaching is alright. The style of teaching is difficult for me to learn from and so I just take notes and read them on my own. The professor seems to care for his students but it seems to be lost in translation when he interacts with them in seemingly condescending ways.

○ Student 3

- **Reason:** Major or minor requirement
- **Effort:** I put a great deal of effort into this course. I went to office hours/scheduled appointments pretty much every week and made sure that I started my Homeworks far enough in advance to be able to ask questions on problems that I was stuck on. I also worked with my classmates on problems to understand material more clearly.
- **Understanding & Appreciation:** Going into this course I thought it was going to be similar to intro to statistics, but it was very different. I appreciate how the material builds on itself so that you need to use things you learned from the beginning of the semester, but this also made the class difficult because you had to remember material from weeks prior.
- **Intellectual Growth:** This course, as most math courses do for me, made me be proactive in my work and studying. I had to actively plan to meet with the professor to ask questions and get help. I wanted to do well and I knew that would be challenging since the material doesn't come easy to me.
- **Quality:** At first, I was a little discouraged with how the course was ran because the material seemed very confusing and the lectures weren't helpful because the material was so theoretical. It's unfortunate that the course has to start with the most difficult chapter because it is not encouraging to students. As time went on, we were able to do more examples in class which really helped. I think the homework questions deviated too much from the examples we did in class. I felt that I had to learn completely new things to do the homeworks which made them frustrating because I was nervous that for the tests I wouldn't understand how to do the questions either. The grading method used sometimes seemed helpful, but I also didn't love that a few errors still made you get a 3 on a question vs a 4 because that seemed to drop the grade significantly. The professor was very available to meet and made time in his schedule for appointments. Later in the semester, he was more flexible with taking opinions from the class about homeworks and test formats. Overall, I think it would be better if the course didn't start off so strong so that students don't get overwhelmed.

○ Student 4

- **Reason:** Elective within major or minor
- **Effort:** Read notes and do the homework
- **Understanding & Appreciation:** Understand the probability: CDF PDF PMF, complex counting.
- **Intellectual Growth:** I learned myself this class.
- **Quality:** He's notes are the same as what he taught in class, which is unnecessary.

○ Student 5

- **Reason:** Major or minor requirement

- **Reason:** Exploration of possible major or minor
 - **Reason:** As a prerequisite for econometrics
 - **Effort:** The course was very challenging, and this added many new skills to me. I learned a markup language and was exposed to R coding. I'm happy that I acquired these skills. There were long and hard homeworks.
 - **Understanding & Appreciation:** I realized that I really like statistics and mathematic after this course, so I registered for two more math courses. I'm considering majoring in math because of this course. This course made me understand math is a very important tool which has applications in a very wide range.
 - **Intellectual Growth:** In addition to statistics, the course gave also some insight into proving. I liked this aspect
 - **Quality:** Th professor was very organized and flexible at the same time. I believe this was the most important strength. We always knew what to learn and study, and he managed the time conflicts well. I also liked that he supplied notes. I don't know if I would learn as much had I taken the course with another professor.
- o Student 6
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I did all of the homeworks, came to almost every class, and participated in almost every lecture
 - **Understanding & Appreciation:** I feel like I have a very good understanding of probability distributions and the beginnings of statistics
 - **Intellectual Growth:** Math always helps in developing critical thinking skills, so it helped me with that.
 - **Quality:** Professor Cipolli is great, but sometimes he overexplains things instead of just moving on, leaving me and surely others more confused. Otherwise, the class was perfect in almost every way.
 - o Student 7
 - **Reason:** Major or minor requirement
 - **Effort:** I have put forth a great deal of effort into every assignment given (no less than 10 hours per assignment and over 20 on some). Having a 20 hour+ assignment during midterms week with 1.5 weeks to complete it in order to get the answer key before a test in this course 2 days later was beyond absurd and greatly hurt me in this class.
 - **Understanding & Appreciation:** This course has worsened my appreciation for mathematics immensely.
 - **Intellectual Growth:** I have been forced to learn how to teach myself in a number of different fields of probability and calculus after this course, as even though the professor knew some of us were 4 years out of calculus he offered no refresher courses, which even economic classes offer.

- **Quality:** The in class lectures were poorly structured, hard to follow and incoherent at times. The homework assignments were obnoxious as we later learned we were expected to have to look up answers and figure out how to get to them to solve it correctly (on the first homework two problems with entire wikipedia articles outlining how complex they are were given). The grading scheme is obnoxious, as completing the entire problem correctly and forgetting to add a minor detail bumps one down an entire letter grade. This is the first non-positive review I have ever written for a professor on sets forms since I feel so strongly that this class was so mismanaged. Also, I have received lower grades in other courses and written positive reviews so this is not a complaint due to my grade.
- o Student 8
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** The effort needed for this class was by a large margin the most effort, in terms of time, I have ever needed to put into any class at Colgate. The expectations for the amount of work to be completed outside of class was more than my other 3 classes combined this semester. Most importantly, I did not find the work to be helpful to understanding the material.
 - **Understanding & Appreciation:** This class is not at all what I expected it to be when enrolling. It was far more theoretical than I anticipated. I feel as though if asked about probability in a job interview, I would struggle to answer the question, which is unfortunate.
 - **Intellectual Growth:** I needed to play my time very well to complete this course because the HW assignments were extremely long and took up a significant amount of my time, which detracted from the time I had to complete assignments for other classes.
 - **Quality:** Professor Cipolli clearly is passionate about the subject and prepares thoroughly for class. However, I have not had a good experience in this course. As mentioned above the sheer amount of work was overwhelming at times and I did not feel it was necessarily helpful for understanding the course material. The grading standards were very confusing and hard to understand how/why certain grades were achieved. I found the lectures to occasionally be confusing with a lack of concrete examples to reinforce the theory being taught.
- o Student 9
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I put in the number of hours expected; roughly 6.5h every week. I try to spend most of my time

understanding the concepts and doing the homework.

- **Understanding & Appreciation:** Appreciation: I really really enjoyed this course. It helped me synthesize everything I have been learning in the mathematics major so far. It has been my favorite course this semester. I have a better understanding of calculus as a direct result of this course.
 - **Intellectual Growth:** I found the examples very engaging and interesting. It has also meshed well with the other courses I am taking this semester.
 - **Quality:** Fantastic. Prof. Cipolli is on time with everything he says he's going to do. He's accessible with good office hours and many appointment slots. He's also willing to (and does) answer questions on the Moodle forum. His goal is to make the course "challenging but doable" and he succeeds admirably in that goal. In class, he is sociable but focused, and welcomes questions, which means that the classroom environment is a pleasure to be in. He welcomes and solicits feedback which means that I feel heard as a student. He also does not give us the answer when we ask a question, which means that I don't need to worry when going into office hours about whether the problem will be ruined for me. I would 110% take a class with him again and hope to see him at Colgate for many years in the future.
- Student 10
 - **Reason:** Major or minor requirement
 - **Effort:** heavy workload but I like it
 - **Understanding & Appreciation:** Great
 - **Intellectual Growth:** As a pure math student there are many applied cases in this course which are interesting
 - **Quality:** He is really great and chill, I love the notes, work load is heavy but I like it
 - Student 11
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Reason:** I'm a mathematical economics major, so this is technically an elective within my major, but it's highly recommended that we choose this course as one of our electives.
 - **Effort:** I always take very careful notes during class. The problem sets are where I do the majority of my learning, since there we get to practice using the concepts that we've learned in class. Generally, I would say each problem set takes about 15-20 hours total, and I spread it out over several days. I always work with partners on the problem sets but we write up our own solutions. Before tests, I generally spend about 5 hours reviewing all my notes, going over the examples we did in class, and going over the solutions to the problem sets.
 - **Understanding & Appreciation:** I came into this course knowing very little about probability, since the

last time I had studied it was sophomore year of high school and I found it very confusing then. Cipolli's teaching methods and fun personality in class helped interest me in the subject and make sure that I had a much higher understanding of the course material.

- **Intellectual Growth:** I think that this course has been good practice in how to work really hard to understand something, work well with other people in the class, and ask for help from the professor when I need it.
- **Quality:** I think that he does a great job of making a lecture class of more than 30 people actually fun to be in, because he's always making funny jokes and he actually knows all of us pretty well. Also, he feels really accessible, and he's super understanding if you need an extension on something. He definitely cares the most about making sure you learn the material and not killing you with work when you have too much going on in life.
- o Student 12
 - **Reason:** Elective within major or minor. Interest in the course material.
 - **Effort:** This class required more work than any other class I have taken at Colgate. The amount of time spent studying and completing assignments was simply unreasonable. At various points throughout the semester we were assigned 16-24 hours of homework during weeks we also had an exam in this class.
 - **Understanding & Appreciation:** This course was excellent at contributing to my understanding of probability and math as a whole.
 - **Intellectual Growth:** I have become much better at not sleeping as a result of this course. Hopefully this helps in a potential future investment banking job.
 - **Quality:** The quality of lectures was good, but it was hard to review material effectively outside of lecture because we did not have a textbook for this class.
- o Student 13
 - **Reason:** Major or minor requirement
 - **Effort:** I completed all the homework, showed up to every class, and prepared for the tests.
 - **Understanding & Appreciation:** Before this class, I didn't really like probability because I had never been taught it appropriately. Taking this class made me confront my dislike for the course material and I now have an appreciation for the complexity of the subject.
 - **Intellectual Growth:** Probability is applicable in many different disciplines. As my second major is neuroscience, I was able to use the concepts talked about in this class to better understand neuroscientific problems.
 - **Quality:** Professor Cipolli is definitely interested in the material that he is teaching and was flexible with the due dates and test dates so they better fit the schedule of the class. However, instead of using his passion for probability to inspire the class, his great interest in the material sometimes came across as arrogance.

- Student 14
 - **Reason:** Interest in the course material
- Student 15
 - **Reason:** Major or minor requirement
 - **Effort:** Interest in the course material
 - **Understanding & Appreciation:** I put in a lot of time on homework, and studied extensively before all exams.
 - **Quality:** Professor cipolli provides a high quality of teaching. He is dedicated to helping students learn, and he really knows the material well. One thing that would have made the class easier for me is if we were given complete notes instead of partial ones (I'm bad at taking notes and paying attention in class) and also if only tests were graded, not problem sets. This has little to do with Professor cipolli himself though. He is great and I would recommend him to future students.
- Student 16
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** Substantial, to the point where I became worried about time for this class cutting well into my other classes, including seminars.
 - **Understanding & Appreciation:** I understand certain aspects of probability, but not nearly as well as I would have hoped going into this class. I am a math major yet am very unsure when and where the subject material is applicable, or how to apply it.
 - **Intellectual Growth:** I learned how to deal with someone in a position of authority who is condescending and refuses to acknowledge that he or she could ever possibly be wrong about anything or make any sort of mistake without at least partially blaming it on someone else or other circumstances. While this may serve me well in the future, it is not an ideal lesson to be learning in probability.
 - **Quality:** Strengths: Legitimately seems to care about the subject material. Weaknesses: Classroom attitude and mannerisms were condescending and boorish. Grading standards were peculiar at best and egregiously inconsistent at worst. Often made mistakes on the board, then when corrected, would blame a student for saying the wrong thing, which entirely defeats the purpose of being a professor, who should be able to see that error before the rest of the class. The material was written in a way that leaves me wildly confused about the relevance and potential purposes.
- Student 17
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor

- **Reason:** Reputation of the instructor
 - **Effort:** I put a lot of effort into this course. Not only did I attend every class, except for one that I missed for an interview, I came to class, was attentive and asked questions often. I started each homework ahead of time, according to the syllabus we were to be given a weeks notice once we had finished the chapter to complete the homework, and for each homework assignment I planned to start and did start well before the chapter was finished. Professor cipolli did not always give us sufficient notice for the deadlines of these assignments, as he noted in the syllabus.
 - **Understanding & Appreciation:** I feel that I have a good understanding of the basic probability concepts, even though we have not finished the course material.
 - **Intellectual Growth:** In this class problems were assigned in which I felt were more like brain teasers than actual math exercises, so I did not feel that they contributed to my understanding, however, I do feel that some problems did help me learn skills that will help me beyond the scope of this course.
 - **Quality:** I think that Professor Cipolli was a little over-ambitious in what he wanted to accomplish in teaching this course, and what he wanted us to accomplish. This happens from time to time in other classes I have taken, but I felt very often that I was rushed going in to exams or handing in assignments because it was not explicitly clear from the syllabus, or far enough in advance to know when they would be or when they would be due. I personally was taking a heavy course load this semester, and have a lot of extra curricular commitments that I juggle by managing my time, which I do not have a problem with my courses doing, but I felt that these assignments/exams threw me off. Professor Cipolli is very helpful in office hours and also over email/moodle and answers questions clearly and in a timely manner, so I wish that he would have more office hours! Maybe once he has taught this course enough to figure out the correct timing of exams/assignments it would be better, but I felt that deadlines and assignments were not clear at the beginning of the semester, and that made this course very difficult for me.
- o Student 18
- **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** It took me 10 hour for each homework approximately. And I take an hour to review the stuff I learned every two days.
 - **Understanding & Appreciation:** Probability is fun but troublesome. It needs tons of calculations.
 - **Quality:** Professor Cipolli's lectures are clear and organized, and he is an easygoing person. However, he makes mistakes frequently. In class, he makes algebraic mistakes and typos in every class perhaps. In homework, we were often offered with wrong formulas and every homework assignment has tons to typos (at

least 5 in each). His grading method in homework and exams is horribly bad. Making 2 tiny mistakes (such as an unimportant typo) decreases about 10% in the overall grade. Unreasonable.

○ Student 19

- **Reason:** Major or minor requirement
- **Reason:** Elective within major or minor
- **Reason:** Interest in the course material
- **Effort:** I usually left all the work until the last minute
- **Understanding & Appreciation:** While I did enjoy the topic, I found it to be too theoretical and we spent a lot of time getting bogged down in calculus which made it much less interesting.
- **Intellectual Growth:** Probability has applications in everyday life, and the models you learn can be used in the decisions you make
- **Quality:** Prof Cipolli has clear guidelines and is pretty flexible. He does explain the material well. This course does require a lot of time, and a lot of the work done comes down to calculus and algebra and the concepts in probability sometimes take a back seat when you do so much of it.

○ Student 20

- **Reason:** Major or minor requirement
- **Effort:** This course required a great deal of effort. The homework assignments were long and challenging, so I had to spend several days to complete each one. The tests were fair, but challenging, and required a significant amount of time devoted to studying and preparation. This course probably required the most out of class time to complete homeworks and prepare for class and exams.
- **Understanding & Appreciation:** Appreciation: I feel that I have a solid grasp on the basic ideas and methods of probability. This course is a great review and application of calculus methods in real world scenarios.
- **Intellectual Growth:** This course has helped me improve my time management skills greatly. At the beginning of the semester, I struggled mightily with the homework assignments because I did not give myself enough time to complete them, but I have done much better since then, which was reflected in my improving grade throughout the course.
- **Quality:** Professor Cipolli always comes to class engaged and teaches the material in an interesting way. He is very helpful in office hours or through email, and though the workload in this course was very high, especially when taking other courses, the assigned problems were rarely unmanageable.

○ Student 21

- **Reason:** Elective within major or minor
- **Effort:** I put a decent amount of effort into this course, enough to get a passing grade. I felt that sometimes

it was hard to learn some of the topics.

- **Understanding & Appreciation:** I appreciate math more coming out of this class. I understand the course fairly well but sometimes I wish we did more real world examples and discuss what we calculate and what it actually means.
 - **Intellectual Growth:** I think that I learned how to connect different units I the course pretty well. Also, I have learned to work through harder problems and have endurance.
 - **Quality:** The quality of teaching is one of the best I've had here at Colgate. The professor is intriguing, smart, respectful, and also approachable. He answers every question perfectly but also allows room to joke around. He is lively and engaging which makes me look forward to coming to class.
- Student 22
- **Reason:** Major or minor requirement
 - **Effort:** I feel like I put a lot of effort into this course. I would start homeworks as soon as they were assigned in our to not be overwhelmed. The one part I did slack on is studying for tests. I definitely should have spent more time reviewing the material.
 - **Understanding & Appreciation:** I had never learned about probability before. After this course, the material began to pop into many of the other courses I was taking this semester and it allowed me to greatly appreciate learning this course.
 - **Intellectual Growth:** The biggest part of this course for me was learning how to use LaTeX. I never would have done that and it has been amazing. I love it and I am using it to write my thesis.
 - **Quality:** I thought the homeworks and tests were written in a perfect way to test our knowledge in a situations we had already been in before as well as in new problems to deepend our knowledge of the subject. I am not sure how helpful I found the notes posted on moodle since I wrote the notes in my notebook anyway.
- Student 23
- **Reason:** Major or minor requirement
 - **Effort:** I put an enormous amount of effort into this class. Each homework assignment required approximately 25 hours of my time to complete. Additionally, I coded homeworks into a nicer format which took additional time.
 - **Understanding & Appreciation:** I thought I would really like the course material, but after taking this class, I realize manipulating distributions is probably not what I want to do with the rest of my life.
 - **Intellectual Growth:** I think this course challenged me to think through incredibly difficult problems. It forced me to ask for help and utilize all of the resources accessible to me.
 - **Quality:** Professor Cipolli is an absolutely amazing professor. He cares about his students and is passionate about the class he teaches. He is always willing to help and is very accessible.

- Student 24
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** This course definitely challenged me more than I expected it to, but not necessarily in a bad way. The homework assignments were time consuming and required a lot of thought.
 - **Understanding & Appreciation:** This made me realize how applicable probability is to a wide range of settings and made me confident in my abilities for the future.
 - **Intellectual Growth:** It taught me time management skills because the homework assignments took so long.
 - **Quality:** Professor Cipolli is a really good professor and knows a lot about statistics. However, I found some of his material to be unnecessarily difficult, expecting us to know things we could not possibly know. Also, his grading procedures were really weird and didn't really make sense to me.
- Student 25
 - **Reason:** Major or minor requirement

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- Student: 1
 - **Reason:** Major or minor requirement
 - **Reason:** I needed a math elective to complete my minor and I had heard good things about Professor Cipolli - it had nothing to do with the course subject.
 - **Effort:** I put a ton of effort into this class. I feel like I was always doing some kind of homework for the class whether it was a problem set, a group problem set, a weekly diagnostic, or studying, I was always doing something and if not I would get behind. I was not expecting to put in as much work as I had to to stay on top of the material.
 - **Understanding & Appreciation:** This course definitely increased my understanding of the course subject. I had never studied probability so in-depth, so it was interesting to go deeper than most math classes normally do. I would say I appreciate the material slightly more than I did, but as the class really was a challenge, I honestly feel like I didn't really see the real life applications as much as I would have liked to.
 - **Intellectual Growth:** The grading in this class was very different than many classes - with the standard system, so learning how to do the best I could on that grading scale was interesting. I think I liked it because it made me review topics and questions from past chapters for each test, which I think definitely made things easier because I could connect things, and also review them. I often feel like I work really hard studying for an exam and then forget everything the next day, so trying to not do that for this class I think contributed

to my intellectual growth.

- **Quality:** I think the quality of teaching in this course was great. Professor Cipolli is one of the most genuine, helpful and organized professors I've had at Colgate. He had an extremely structured class, which is something that I always do really well with. Although there was a lot of homework, you could pretty much expect it, and the weekly diagnostics, although sometimes a hassle to fill out, kept me thinking about the class, and were routine - it was hard to forget I had one since it was every week. Additionally, I considered dropping the course partway through the semester because I was so busy with everything else this semester and was really struggling staying on top of all my classes. Professor Cipolli talked me into staying in the course, by convincing me that I was capable and offering to work with me when I needed help, and being flexible with dates. Although staying in the course was a ton of work for me the rest of the semester, I am glad I stayed in it because he really is a great professor and I'm glad I had the chance to learn from him. Additional strengths in terms of the teaching in my opinion are giving time for us to chat with a friend about an example in class, this always gave me a chance to step back and evaluate my understanding. Also - the group hw I do think is a good idea because it gets you talking to classmates you wouldn't normally interact with.
- o Student: 2
 - **Reason:** Elective within major or minor
 - **Reason:** Reputation of the instructor
 - **Reason:** I had heard it was a good class and that Cipolli is a good Professor.
 - **Effort:** This class is very much you get out what you put in. We go over the material in class but it's up to you to work on your own to gain a deeper understanding. If you manage your time well the amount of work is very reasonable.
 - **Understanding & Appreciation:** I had never taken a probability or stats class before so a lot of this material was new to me. I thought it was really interesting how this class takes the theoretical ideas we've learned in other courses and actually applies them to useful applications.
 - **Intellectual Growth:** This course is a very verticals class. It builds on itself and requires you to really have a solid understanding of everything because it will draw on things we learned back in the first week of classes.
 - **Quality:** Cipolli is a very sarcastic guy. I like him because I appreciate his humor but I know not everybody feels the same way. I think he has a big passion for this subject and clearly enjoys teaching it to us and wants us all to learn and succeed. I wish we moved a little slower on the examples in class sometimes. I also don't like the standards grading system because it puts a heavier weight on your second attempt of a problem. That doesn't make a ton of sense to me because I feel like you should be rewarded for getting it right the first time. Overall I have really enjoyed Cipolli and this class and feel like I've learned a lot.

- Student: 3
 - **Reason:** Exploration of possible major or minor
 - **Reason:** Interest in the course material
 - **Reason:** I took this course because I want to try the next level of stats, and see how it goes.
 - **Effort:** I put in a lot of effort into this class, especially in the beginning when we were learning the coding in latex.
 - **Understanding & Appreciation:** It helps me to understand the connection between calculus and stats, and it gives me an idea of many important concepts such as PMF, PDF, and CDF.
 - **Intellectual Growth:** This course is the most difficult course I learned this year, and it helps me to understand how to organize my due dates and how to work with my teammates in college.
 - **Quality:** The professor cares about every student and he reads our opinions (weekly diagnostic) very carefully.
- Student: 4
 - **Reason:** Major or minor requirement
 - **Effort:** I studied over class notes over almost every class, spent many hours completing homework assignments, went to office hours regularly to better understand the material, and studied numerous hours for exams.
 - **Understanding & Appreciation:** The course greatly contributed to my understanding and appreciation. I did not know that probability was so rooted in calculus and found this interesting.
 - **Intellectual Growth:** This course challenged my critical and analytical thinking skills mainly through challenging homework problems.
 - **Quality:** Professor Cipolli was very organized and showed a strong passion for teaching this course. He always made himself available in office hours to answer questions, as he seemed to care greatly about his students understanding the material. The only problem I had with this course was the use of the statistical program, R. Without any background in coding or computer science, I felt that the use of this program was incredibly time-consuming and challenging for me to get the hang of. I felt that some homework questions that required us to heavily use this program were very tough for me understand and at times seemed to lack education value/were not that closely related to the course material. Professor Cipolli did frequently give examples in class using the program, but I still felt lost most of the time, given my background in coding. I don't think it would be a terrible idea to make an intro Computer Science class a pre-requisite for this course.
- Student: 5
 - **Reason:** Major or minor requirement
 - **Reason:** Reputation of the instructor
 - **Reason:** Interest in the course material
 - **Effort:** There are certainly times when I slacked off a little bit, but in general I put in decent amount of

effort.

- **Understanding & Appreciation:** This class takes a theoretical approach to the teaching of the subject of probability and helps build a solid foundation of understanding of it.
 - **Intellectual Growth:** Sometimes the heavy calculation questions seem tough but require less thinking (deriving CDFs, etc.), but a lot of the times the questions require a certain degree of application of the theoretical formulas to ensure better comprehension (deciding when to use which distribution, etc.)
 - **Quality:** Overall I really liked Prof. Cipolli's teaching because the class encourages independent thinking and fosters an environment where peer-learning is encouraged. One thing that can get improved on potentially is the pace of the class because sometimes we spend a little too much time on the stuff that everyone seems to have comprehended well, whereas some tough concepts are not being paid enough attention to.
- Student: 6
- **Reason:** Major or minor requirement
 - **Effort:** This course required substantial effort. Professor Cipolli certainly does not have easy grading standards but he is not unnecessarily difficult either. I was required to work diligently.
 - **Understanding & Appreciation:** Probability is a math with real world applications and it is not abstract in any way, and so I feel that I understand an entire branch of mathematics well after taking this course.
 - **Intellectual Growth:**
 - **Quality:** Professor Cipolli is a very smart man and he seemed to care much about the students' learning. One critique is that he assumed that the students knew more off the bat about the basics of probability than we actually did. I would suggest that he emphasize to the students that the homework cannot be completed in a day, and the test cannot be prepared for in a day, because students do regrettably do this. I also understand the method behind the standards grading system, but I felt unprepared for chapter two's test for example, because the majority of the testing that determines the grade for chapter one is on the chapter two test, and the majority of the testing that determines the grade for chapter two is on the chapter three test, etc. I do not entirely like this grading system for this reason in addition to the fact that I felt that the professor was very tough in his grading, and if the system remains in place I think that it needs to be explained to students in class rather than just in the syllabus. Professor Cipolli is an excellent teacher, however. He knows the material extremely well and does a great job conveying the information to the students. I felt that learning from him was easy and I appreciated his enthusiasm.
- Student: 7
- **Reason:** Major or minor requirement
 - **Effort:** I feel like I put a significant amount of effort into this class. The homework sets take a lot of time to complete and I feel that I was in office hours a lot trying to get assistance.

- **Understanding & Appreciation:** I think the subject reflected real-life situations which helped my understanding of the course subject
 - **Intellectual Growth:** I think this course has helped me be more on top of work.
 - **Quality:** I think that the lack of a textbook makes this course difficult for me to understand what is happening sometimes. I feel that there should be more examples that are on the notes that we look at outside of class. I think this teaching is hard because I feel that sometimes the homework is unnecessarily difficult and few people in the class understand what is going on. Also, I think that the tests do not always cover the bulk of what is being covered in class. I would like it if the practice problems were less like the homework and more like the test. That being said, Cipolli is super responsive to his emails, extremely understanding and accessible. I think he is a good professor.
- Student: 8
- **Reason:** Elective within major or minor
 - **Effort:** This course took a lot of time, the most time intensive part was probably the coding aspect. The math itself though was fun and challenging.
 - **Understanding & Appreciation:** I had never taken a statistics class and it greatly expanded my view of what is probability and how complex it actually is.
 - **Intellectual Growth:** The group work was a huge part of my growth in this class. Definitely not my favorite part but I feel like it made me better in group work scenarios.
 - **Quality:** Loved Professor Cipolli, very charismatic teacher that is always very enthused about what he is teaching, really made this course what it was. Also I really liked his grading style, very very clear.
- Student: 9
- **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I went to office hours occasionally and put in a lot of time doing the homeworks. Roughly 10 hours per homework. Studied a few days before tests.
 - **Understanding & Appreciation:** I grew to like this class more and more as the semester progressed. I feel as though I've gained a good understanding of the material.
 - **Intellectual Growth:** The class involves a little theory that is always useful to understand for general problem solving. It helped me with comprehension and problem solving.
 - **Quality:** Professor Cipolli was always available for help and responded quickly to messages. From class the examples and theorems really helped me prepare for tests and finish the homeworks. Overall I think the class was taught well and I learned a lot.
- Student: 10

- **Reason:** Major or minor requirement
- **Effort:** I went to nearly every class, with exception of probably 2 (one for extenuating circumstances) and paid attention during those times, even though it was very hard at 8:30 in the morning for 1 hour and 15 minutes. I completed the homework to the best of my ability and studied probably far too much for the exams a few days in advance.
- **Understanding & Appreciation:** I learned how much more complex probability really was as a subject. Over the course of this semester, I have learned how difficult a statisticians job is and how many different distributions and moderations of those distributions there are.
- **Intellectual Growth:** Probability gave me a lot of knowledge of LaTeX, which will be beneficial for me next semester. Additionally, I thought that it was awesome to see a professor care so much about their student's opinions and feedback. Lastly, I thought that this course encouraged participation - even in small ways - through the use of notecards in class. Through that, I realized how important participation truly is in order for one to understand the course material.
- **Quality:** One thing I really appreciated about this course was that Professor Cipolli was extremely understanding and helpful when you had questions. Also, it was really nice to see the course grow throughout the semester to fit our class' needs rather than sticking by the lesson he already had planned. This shows that he has an extreme interest in students and has a great ability to adapt because not all lesson plans work for every class. I think he did a good job explaining things in class, but I did wish at times that we were following along with the notes directly on a powerpoint of some sort. Also, I wished there were weekly HW assignments rather than longer due assignments because I always found myself (and many others) to be completing it last minute. It would be nice to finish the HW assignments while the information is fresh in your mind, with the due date to force you to do so.
- Student: 11
 - **Reason:** Elective within major or minor
 - **Reason:** Ultimately decided on taking this Math elective over any others because of Cipolli. One of my favorite professors at this school. This class is quite difficult but I do not have any regrets about taking it.
 - **Effort:** There's no "nightly" homework, however the homework that are due about once every 3 weeks take about 10 hours or more to complete.
 - **Understanding & Appreciation:** The homework was extremely challenging and forced the students to have a deeper understanding of the subject matter.
 - **Intellectual Growth:** Working that long on some homework changes a man.
 - **Quality:** I very much enjoy Cipolli's teaching style and his grading procedures.
- Student: 12

- **Reason:** Major or minor requirement
- **Reason:** Exploration of possible major or minor
- **Effort:** I put a good deal of effort into this course. Because of the weekly diagnostics and the problem sets that took up a good amount of time to complete.
- **Understanding & Appreciation:** I feel like I understand the concepts of probability better now that I have taken this course. I also appreciate this area of mathematics better as well.
- **Intellectual Growth:** I feel like this course has also helped me with other courses such as the ones in physics as I see some of the counting methods and other probability functions in some of my physics classes.
- **Quality:** Prof. Cipolli was a very fun professor to have. He was very organized for each class and he made the class interactive in a way that such that it wasn't always lecture. I don't see any notable weaknesses.
- Student: 13
 - **Reason:** Major or minor requirement
- Student: 14
 - **Reason:** Interest in the course material
 - **Effort:** I put a great amount of effort into this course, often times so much so that I felt my effort in other classes had to be compromised. I spent a significant amount of time on each homework, over 30 hours for most homeworks, which seems slightly unreasonable. Other than that, I've really enjoyed this class and it has allowed me to work tirelessly on something and become an avid problem solver.
 - **Understanding & Appreciation:** As a result of this course, I have grown in my appreciation of the subject of probability and I've been able to see its relevance and every day applicability to the real world. It is such a vital subject that should be required for any math study.
 - **Intellectual Growth:** Overall I have been able to better come to terms with and embody the idea of productive failure that Prof. Cipolli so openly hopes that we buy into. As a result of this course I have become a better problem solver and not afraid to make mistakes. This class has also enhanced my work ethic, collaboration with peers, and openness to asking questions.
 - **Quality:** I really enjoyed Prof. Cipolli and his lectures and teaching style. The one critique I have is that they've become slightly monotonous and as a result I feel like students' attention and participation start to waver. These could be improved by varying how he portrays material and incorporating more small group activities or tutorial-like sessions. Thank you for a great semester, Prof. Cipolli! I truly have learned a lot- this is one of the most challenging but best math courses I've taken at Colgate and I am so happy I was in your course!
- Student: 15
 - **Reason:** Elective within major or minor

- **Effort:** I did the homeworks and studied for the tests but did not ever read the notes ahead of class.
 - **Understanding & Appreciation:** I have learned a ton about probability specifically I have learned a great deal about different distributions and how to use distributions to gain information.
 - **Intellectual Growth:** I have learned how to apply concepts to problems that do not look like ones we have seen in class before, so this class has helped me learn how to completely understand concepts so that I can use them in multiple ways.
 - **Quality:** Cipolli is an excellent teacher in class and is very engaging with the students. He does his best to increase class participation in a class where class participation would not be as high as other classes. His grading methods are fair and he is effective, give him tenure.
- Student: 16
 - **Reason:** Elective within major or minor
 - **Effort:** I completed the homework in a timely fashion and was prepared for class each day.
 - **Understanding & Appreciation:** I knew nothing about probability before this course. I did not know what the content would consist of before enroll. Now I have a solid understanding.
 - **Intellectual Growth:** It challenged me to approach problems differently.
 - **Quality:** Professor Cipolli is a good teacher. I had no complaints about the quality of teaching.
- Student: 17
 - **Reason:** Elective within major or minor
 - **Reason:** Useful for grad school.
 - **Effort:** A lot of!
 - **Understanding & Appreciation:** We started from scratch and went into useful theories and distributions. Great course!
 - **Intellectual Growth:** Interaction really matters.
 - **Quality:** Great course!
- Student: 18
 - **Reason:** Elective within major or minor
 - **Effort:** This course required a lot of effort when it came to completing the homeworks and studying for the tests. The homework assignments took me many hours to type and figure out how to use R, in addition to asking questions in office hours. The tests also required adapting to new studying techniques, as I had to re study for old topics, which was a new and unique concept.
 - **Understanding & Appreciation:** I really enjoyed this class and the topic we learned.
 - **Intellectual Growth:** I think it was very helpful for real world applications to learn to use R. As I have been applying for internships for next summer, recruiters are often excited to hear about students who can use R.

- **Quality:** I thought Professor Cipolli was a great teacher. He was always available for questions, whether it be in office hours, outside of office hours, or on the moodle discussion board. It is clear that he really wants his students to do well and is willing to help them achieve their goals, no matter what it takes.
- Student: 19
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** This class required minor effort most of the time and extreme effort on a few occasions. Usually it is just come to class and listen enough to fill out the notes, but close to when the homeworks are due it is all I have time for. Obviously I could start assignments earlier but I don't.
 - **Understanding & Appreciation:** I really didn't know any probability before this class and I now feel much more comfortable with the general concepts and feel like I could apply them to new situations but I am not actually sure what I know in the grand scheme of probability.
 - **Intellectual Growth:** This class taught me coding skills I did not have before which will be useful in the real world.
 - **Quality:** Cipolli is a good professor. He obviously tries to encourage involvement even in an 8:30 which is hard to do. For me the note packets are hard because they make it really easy to zone out instead of really pay attention, but I think he is engaging when he speaks and does a good mix of proofs and examples to make sure we really understand what to do.
- Student: 20
 - **Reason:** Major or minor requirement
 - **Effort:** I put significant effort into succeeding in this course. After each chapter, I would make a study guide of the topics we had covered. I would also take a great deal of time to do the homework and double-check my work for correctness. I also studied well for tests until I felt I was very well prepared.
 - **Understanding & Appreciation:** I gained some interest through the course, as many of the topics we covered were of intrinsic interest to me. However, I do not think I owe this credit to the professor, as in many instances the way that the course subject was introduced to us was in a manner that I felt wasted my time rather than facilitated learning.
 - **Intellectual Growth:** I honestly do not think the course contributed to my intellectual growth beyond my understanding of the subject material.
 - **Quality:** Overall, I was dissatisfied with the quality of the teaching. Firstly, the inclusion of the computer program, R, into the course I thought was ridiculous given that computer science was not a prerequisite to taking the course. I lost points on many homework assignments due to that fact that I had minimal experience coding (even though I have taken intro to computer science here at Colgate). I do not think it is

right or fair to be tested on and lose points for something that was not taught in the course. Additionally, the problem sets would take a tremendous amount of time since we had to type up all of our work into this program. Without having to do this, the problem sets would have taken a fraction of the time. While complaining about the time they took may not seem like a valid argument, typing the work up in R had no educational value and was just busy work. Additionally, the grading seemed to always be very subjective, as the professor would give you a letter grade on each problem depending on how well he thought you understood the problem. I definitely would have preferred a more objective, points driven method to grading rather than adding the possibility of subjectivity.

○ Student: 21

- **Reason:** Major or minor requirement
- **Effort:** I completed three homework assignments and group homework he assigned us, each had taken me over 15 hours to complete through R studio. I studied hard for the exams and did extra problems aside from the class.
- **Understanding & Appreciation:** I think my interest in those topics faded as his instructions sometimes confused me and he overcomplicated some simple materials in class which made me spend more time outside of the class studying the course.
- **Intellectual Growth:** This class trained me to get used to using Latex.
- **Quality:** I like the professor for how much effort he made to get the whole class involved in his class and his willingness to improve through feedbacks of students' in weekly diagnostics. However, I think my overall experience with this class was disappointing. The professor's grading standard for the coursework especially for the homework was extremely unclear. I didn't know what work he expected us from the homework. I also found it that the homework he assigned did a poor job consolidating the topics I learned in class through doing the homework because the homework contained merely complicated calculations and heavy coding work. Thus, I often felt like I learned nothing from this course. The professor also frustrated me by suspecting that I used online calculators instead of finishing the work on my own when the fact was I did type and code every digit on my own with the homework.

○ Student: 22

- **Reason:** Major or minor requirement
- **Effort:** The homework sets were distributed weeks before its due date and I have plenty of time to work on it. The lecture notes helped me prepare well for the exams.
- **Understanding & Appreciation:** It introduces me to the probability distributions and the applications of the distributions.
- **Intellectual Growth:** It introduces me to some coding that are going to be useful in my life.

- **Quality:** The professor has always been responsible and patient.
- o Student: 23
 - **Reason:** Major or minor requirement
 - **Effort:** 8 hour each week
 - **Understanding & Appreciation:**
 - **Intellectual Growth:** Almost nothing but learning how to use latex and R
 - **Quality:** Strength: really good at facilitating class discussions Weakness: requires students to show unnecessary procedures and proofs, really time consuming and tedious. Harsh grader and sometimes raise ambiguous questions.

MATH 317: Mathematical Statistics (now MATH 416)

Spring 2017: Section A

- o Student 1
 - **Reason:** Major or minor requirement; Interest in the course material; Strong interest in the course material
 - **Effort:** I came to nearly every class, spent HOURS on every homework, and attended office hours on average about twice per week. I am very attentive in class and participate more than most students. I worked very hard in this class.
 - **Understanding & Appreciation:** Very much so. At first I was genuinely confused by a lot of the theory in this course but once I began frequenting Professor Cipolli's office and meeting with classmates to complete Problem Sets I began to really understand what was going on. I know much more about Statistical Theory than I once did and I am excited to take 317 with Professor Cipolli next semester.
 - **Intellectual Growth:** I think that by forcing myself to take a step back, and analyze theory as much as I "grinded" out problems, forced me to understand the course material in a more complete way. This has helped shape my intellectual growth here at Colgate undoubtedly.
 - **Quality:** Professor Cipolli is the most organized and hard working Professor I have had at Colgate. He is well prepared and loves helping students. His notes are usually helpful and I always learn at least something from his lectures. Often times I understand everything we go over in class but it is in the nature of this course I believe that that is not always the case. Sometimes I think that Professor Cipolli doesn't truly understand our questions – on Problem Sets and/or in Office Hours. There have been a small number of occasions where I have left office hours or read an email from him that has just served to confused me further. Nonetheless I would highly recommend Professor Cipolli to anybody who asks if they should take his class.
- o Student 2
 - **Reason:** Major or minor requirement; Interest in the course material

- **Effort:** I put a great deal of effort into this course. Especially when the course began to get more theoretical, I would spend hours trying to understand the material.
 - **Understanding & Appreciation:** It helped me appreciate the probability theory that underlies all of statistics. The theory is super important so that we understand what we are actually doing when moving towards more applied statistics. I really appreciated this course.
 - **Intellectual Growth:** It stretched me to think in ways I have never thought before. The material was quite abstract at times, and this forces you to think through a different lens. I'm happy I got through it even though it was difficult at times.
 - **Quality:** Professor Cipolli is the man. I cannot think of any weaknesses in his teaching, and I think the quality of teaching was exceptional. I'm looking forward to taking his class again, and I'd recommend a class of his to any of my peers.
- Student 3
- **Reason:** Exploration of possible major or minor
 - **Effort:** The effort I put into this course consisted of 4-5 hours about once every two weeks, when I would do the hw at the last minute.
 - **Understanding & Appreciation:** This course contributed to my understanding of the course material in that I now know more theory behind probability than before. I would say my appreciation for the subject has decreased, as I am not too fond of the straight theory of probability, and instead am interested more on application. This is not the fault of prof Cipolli. In fact, he mentioned trying to get a data analytics class offered soon. I would love to see the department offer that class.
 - **Intellectual Growth:** The course helped me realize how bad my study habits can be sometimes.
 - **Quality:** I believe that Cipolli did an outstanding job teaching, especially given that it was his first year here. He cracked jokes in class constantly, trying to engage the class. Given it was an 820, most students were quiet, but he tried his best. When teaching, I would have preferred that maybe he not teach straight out of his notes. However, this method was not bad, just maybe not the best way that I learn. Cipolli was very accessible outside of class and always willing to help us.
- Student 4
- **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I take notes in each class and review my notes after class. I also use online forum on a regular basis to learn from my peers and raise questions. I also spend extra time before each test reviewing and doing practice problems.
 - **Understanding & Appreciation:** I learned more about statistics and probabilities due to this course, and

especially how to incorporate R and other programs into a math class.

- **Intellectual Growth:** It helped me think critically and logically. I also learned to pay close attention to details, especially when writing a proof. I also get the hang of basic programming and graphing skills due to this class.
 - **Quality:** Prof. Cipolli is very nice, helpful and accessible. He always tries his best to help students learn and make his lectures interesting and insightful. He is always available during office hours and via emails, and he is willing to set up extra time for students. He gives clear grading criteria and gives feedback on time, which helps students to review and improve. His lectures are organized, interesting and detailed. I really enjoyed his style and class.
- Student 5
- **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I did all the homeworks; had never missed any class so far.
 - **Understanding & Appreciation:** it helped me understand some theories and concepts behind probability models, and see a little bit how they are applied in real world.
 - **Intellectual Growth:** The course has helped me realize how much theory work has to be done in order to model some real-life scenario.
 - **Quality:** The teaching is of great quality, but it'd be better if the instructor could provide more in-depth examples on how the concepts and theories we've learned in class are applied in solving real world problems.
- Student 6
- **Reason:** Interest in the course material
 - **Effort:** In addition to the extremely long and difficult assignment which usually takes 3 to 4 hours, I usually spend 30 minutes everyday, when time allow, to review the material we learned in class that day.
 - **Understanding & Appreciation:** I learned that probabilities is not as easy as stats.
 - **Intellectual Growth:** It helped prepared me for interviews I have had with companies known for asking probability questions.
 - **Quality:** Prof. Cipolli cares about his student a lot and has many office hours. However, I felt like I didn't really learn in class. Maybe he was going too fast to the point I wasn't sure what was teaching anymore. It could also be the the way he was presenting the material that didn't make sense to me.
- Student 7
- **Reason:** Elective within major or minor
 - **Quality:** Professor Cipolli came up with many interesting examples both in class and in homework. He also did a very good job in incorporating R into the class, in addition to calculations by hand. However, he could

improve on his style of lecturing, especially in focusing only on class content and talking less about class irrelevant things or comments. Also, he could come more prepared and give his lecture more organized than he did this semester given that this is his first semester of teaching. He did a really good job in asking for feedback: He sent out survey multiple times throughout the semester. In general, he has potentials but he could improve on his lecturing.

○ Student 8

- **Reason:** Major or minor requirement
- **Reason:** Interest in the course material
- **Effort:** hours of study every week
- **Understanding & Appreciation:** A better sense of applied math
- **Intellectual Growth:** More practice on math logic
- **Quality:** Fair

○ Student 9

- **Reason:** Major or minor requirement
- **Effort:** I put a lot of effort into this course. I frequently studied and each homework required a fair amount of time. Leading up to assignments being due, several hours a day had to be put aside to complete it. There were also four tests, so we frequently were reviewing those as well.
- **Understanding & Appreciation:** I believe the course has really helped me appreciate the subject. At the beginning of the course I wasn't even quite sure what would be discussed but I came out of it hoping to continue on in the subject.
- **Intellectual Growth:** The course helped my intellectual growth for several reasons. Firstly, it was very difficult and reasoning intensive. I believe it has helped me approach problem solving more carefully, because most of the work was theoretical. So, ideas, rather than equations were taught. Also, considering I enjoyed the class, it helped my education by encouraging me to take more math courses, including Math 317.
- **Quality:** The quality of teaching was outstanding. Professor Cipolli was my favorite teacher since coming to Colgate. He made the class challenging, but rewarding. He facilitated learning in exciting ways Professor Cipolli was excited and enthusiastic every class, and it was infectious. He welcomed questions almost with vigor, which was actually really encouraging. It seemed everyone felt comfortable speaking in class with a question if they were unsure, and the positive feedback allowed for an easier learning environment. That would have to be one of Professor Cipolli's strengths: how he responds to questions. He placed a great amount of import on students' getting their questions answered. I cannot think of any weakness exactly; if there was something occurring that the students didn't feel was helpful, he would send out a survey and fixed it. That was very helpful and thoughtful.

MATH 317: Mathematical Statistics

o Student 1

- **Reason:** Interest in the course material
- **Effort:** I attempted to do every assignment. I spent a lot of time poring over the notes and trying to understand the concepts that Professor Cipolli explained in class and apply it to the fairly challenging homeworks.
- **Understanding & Appreciation:** Statistics is hard. Much harder than you would think from an intro level stats class. Unfortunately, I was not able to master the course subject to the extent that I would say I understand math stats in the context of layman stats. I still don't know exactly where or how the concepts we learned in class fit into how real world analysis is done.
- **Intellectual Growth:** This course showed me that sometimes trying just isn't enough. You have to really have a talent or a passion for some of the harder things in life. If you're just not good at something and you discover that you weren't interested enough in the first place, it's difficult or almost impossible to make things work out. Some people thought this class was easy and understood concepts immediately. It would take me hours and hours to ask a decent question about the material, let alone 'get it.' No hard feelings though.
- **Quality:** Professor Cipolli is a very energetic professor. He has consistently been transparent to his students and very accommodating and happy to help. He gives surveys every so often to allow students to give him anonymous feedback to aid his teaching. He has very high expectations for achievement and so does not dwell on small stuff very often. With students that are both talented and hard working, Professor Cipolli gives them the tools to succeed and cultivate their understanding of the class. As energetic as Professor Cipolli is, he is also a very busy man. As someone who struggles in class, I often found that he did not really have time to explain basic concepts to me for the second or third time (which is fine). He engaged with students on a higher level of understanding and was optimal in that regard.

Professor Cipolli's notes, while comprehensive, lacked context and exposition. I often did not know what or why I was doing something or solving a problem. It only showed how I could solve a problem but not where that problem and its solution fit in the greater context of the class, if that makes sense. Additionally, sometimes in class, his explanations and methods can border on "hand-wavey", which can be very confusing at times. This is something I think could be improved in the future. Otherwise, Professor Cipolli shows great promise in being a good fit in the Colgate math department. His enthusiasm is almost infectious.

o Student 2

- **Reason:** Major or minor requirement
- **Reason:** Interest in the course material

- **Effort:** This course required a lot of time for the homeworks to be completed, there was never really a lull in the workload in this course. The exams did not require as much work to study for as much as the homeworks since the homeworks served as prep for the exams.
- **Understanding & Appreciation:** I enjoyed the course material sometimes it was too theory laden and was had to see the actual value in learning the material with real life applications. I think Cipolli did a good job in preparing us for the exams and helping us understand what the math really meant.
- **Intellectual Growth:** I don't know that this course extended beyond the scope of the classroom, but I enjoyed the class and will maybe pursue statistics in the future in a more applied realm. I hope Colgate's addition of the applied math major is able to accommodate this for students that wish to pursue it.
- **Quality:** Cipolli always made himself very available with office hours which I really appreciate. The balance of this class was also nice being heavy on the homeworks and lectures rather than on the exams. That being said, I think the exams are often not wholly representative of how well students know the material. Sometimes Professor Cipolli can come off as slightly arrogant and condescending about the material, but overall very helpful and a hard working professor.
- o Student 3
 - **Reason:** Major or minor requirement
- o Student 4
 - **Reason:** Major or minor requirement; Elective within major or minor; Reputation of the instructor; Interest in the course material
 - **Effort:** A ton of effort. I spent hours on the homework and studying. This is not an easy course.
 - **Understanding & Appreciation:** A ton. I really enjoy statistics, and to this point I have only learned how to apply it. It is nice to have a course exploring the theory behind it.
 - **Intellectual Growth:** A ton. It helped me to think deeper about some of the applications of statistics. Also, seeing the mathematics behind it and developing statistical concepts with rigor gave me a different perspective and helped me appreciate the area more so than I already did prior to taking the course.
 - **Quality:** I really like Cipolli. I wish he had more office hours though. I think him teaching the big statistics course cuts into the time he has to meet with us. Overall, great teacher, and great course.
- o Student: 5
 - **Reason:** Major or minor requirement; Interest in the course material
 - **Effort:** I came to almost every class and I completed every assignment on time. I spent a fair amount of time reviewing for each exam.
 - **Understanding & Appreciation:** The course was a big step forward after taking Probability, since the material was built upon it but went much further. The course also gave me a direct sense of how real world

events may be modeled, and introduced me to many theoretical aspects of the modeling process.

- **Intellectual Growth:** The course prompted me to read and understand hard materials on my own, because I couldn't understand them within the short amount of time spent in class listening to lectures. The homework problems also forced me to reflect on the concepts and proactively make a connection with real world scenarios.
- **Quality:** Strengths: graded homework really fast with detailed comments, detailed lecture notes online, enthusiastic about the material and eloquent in class, collected feedback from students often and very willing to listen to our feedback, facilitated discussion by using an outside class forum which I think is a great idea. Weaknesses: didn't cover as much material as planned on syllabus, potentially making the topics we did cover somewhat disconnected (and I also felt that the topics themselves are too theoretical as we always had to skip proofs), assign more problems so that we forget less, and assign more book problems (some book problems are crafted in unexpectedly interesting ways to help us grasp the concepts). Suggestions: in need of a better forum where we can post formulas, like Piazza
- o Student: 6
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Effort:** I put a great deal of effort into this course, but it has been a frustrating experience
 - **Understanding & Appreciation:** I have gained some level of understanding and little to no appreciation of Mathematical Statistics
 - **Intellectual Growth:** Not much, the course didn't inspire me to do any thinking outside of the material
 - **Quality:** Strengths – the prof worked hard to grade assignments, create class notes, etc. He was also relatively accessible as well as interesting to listen to during class. Weaknesses – the class was simply too hard or at least much harder than it needed to be. The homeworks were graded harshly, tests were too difficult, and there was no curve at all, which I find strange in an upper-level math class. If there was any kind of a curve, it would have at least been manageable. In addition, during class, we did things that were not helpful for the tests and homeworks, and it was actually difficult to even practice because, in class, we were proving things that we weren't required to prove on exams
- o Student: 7
 - **Quality:** Ive come around to Cipolli. I was not a big fan in the first half of the semester, but I realized in the second half, that he actually really cares about his students and making sure they learn. If he makes some changes and gets better at lecturing he may actually be a pretty good professor. Right now, his lectures arent great. He makes a lot of mistakes on the board which is confusing at times. Also, he lectures straight from his notes so I did not feel I needed to attend many classes. I think if he were to have examples outside

of the lecture notes for class that would be beneficial. The book used for the course I think is quite horrific. It was a complete waste of money and his curriculum did not follow the book in any order. The problems in the back of each section were often times irrelevant and useless to understanding the material. The book also assumed knowledge of real analysis and algebra. I have taken these courses so I was able to get through it but I think it was meant for a graduate audience. After taking most courses in this department, I can say it does not teach you the fundamentals. Most professors here assume knowledge.

○ Student 8

- **Reason:** Major or minor requirement
- **Effort:** The effort I put into this course consisted of completing long and grueling problem sets about once a month . These problem sets, while long and difficult, were very helpful in preparing us for the exams.
- **Understanding & Appreciation:** As someone who might want to pursue a masters in stats after graduation, this course really opened my eyes to what that would be like. While at the moment I am looking to learn more Applied stats, it was still really cool to learn the theory behind a lot of stats, and I have no doubt that this class will be useful to me in the future.
- **Intellectual Growth:** This course helped grow my work ethic. Like I said, the problem sets were tough, and required a lot of hours grinding away. This class made me work hard.
- **Quality:** Cipolli is funny and knowledgeable and overall a very good prof. One complaint I have is that in office hours, he sometimes seemed very annoyed when students came by for help. This subject material is difficult, and I would have appreciated more of an effort to help outside of class.

○ Student 9

- **Reason:** Elective within major or minor

○ Student 10

- **Reason:** Elective within major or minor; Interest in the course material
- **Effort:** Participated in class, completed all homework questions and prepared well for the exams.
- **Understanding & Appreciation:** This course introduced the basics of mathematical statistics to me. However, it seems a course with a lot of techniques but lacks a overall big picture and applications of those techniques covered in this course.
- **Intellectual Growth:** NA.
- **Quality:** The focus of this course seems mysterious to me. Majority of the time is spent on multi-variable transformation, different kinds of statistics and some methods of estimation. Although some of the materials do appear as premises for other theorems, I was not able to see a coherent story for all the materials covered in this semester. In other words, I have learn all those techniques but not sure why do we need to learn about them. Another major issue of the course is absence of application of the course material. Nothing

applicable to real life problems or related fields, especially economics, was introduced during this semester, which was actually the reason I enrolled in this course. I assume the same feelings exist for students who entered the course from a computer science background as well. It is hard to see why the instructor did not make references to those two subjects. Last of all, the course moves extremely slowly. I can count the topics covered the entire semester with just one hand. What could be done in one day was covered over a prolonged period of time, which seems pointless to me. If the pace of the course was faster, more materials could be introduced and the course would potentially be more meaningful.

○ Student 11

- **Reason:** Elective within major or minor

○ Student 12

- **Reason:** Elective within major or minor
- **Quality:** The instructor should provide an outline for the lecture on that day and progress as the proposed outline. The instructor should use the time in class more efficiently than just doing out algebra and calculus. The instructor should focus more on conceptual understanding and how to apply the theory and method. The instructor should pay more attention to details and make less major and minor mistakes when writing on the boards, making notes, or making homework. The instructor is very good at giving back homework in time and asking for feedback from students. The instructor is also very available during office hours.

○ Student 13

- **Reason:** Elective within major or minor
- **Effort:** Somewhat.
- **Understanding & Appreciation:** Not too much. I'm a little disappointed that the professor did not have enough time to cover important topics in statistics like hypothesis testing, ANOVA, etc. Most of the topics covered in class have little added value in terms of both knowledge and applicability in industry.
- **Intellectual Growth:** Not much
- **Quality:** I find the professor to be very underprepared in class and sometimes it feels like he doesn't know the materials very well as he constantly makes mistakes on the blackboard. Also, I find the required participation in the Moodle forum to be very unnecessary and cumbersome. I prefer asking questions in-person and typing out an equation on Moodle takes much more time than just coming to office hours. I think that there should be more preparation and organization from the professor's side in planning the timeline and outline for the course.

○ Student 14

- **Reason:** Elective within major or minor
- **Effort:** Sometimes the homework is really long and takes lots of time and it is fun overall.

- **Understanding & Appreciation:** Since this course is the extension of MATH316, I gradually understand how all the materials that we have discussed before interact with each other.
 - **Intellectual Growth:** It helps me strengthen my knowledge learned in probability and introduce new materials that wrap up almost everything discussed before.
 - **Quality:** I think sometimes the introductions of new materials are not sufficient. It can be really confusing for a couple of days and gradually make sense. I think maybe because professor assumes that all the students have some background of stats, but I hope he could spend more time introducing new definitions. Homework and exams are reasonable and I am glad that we only have two exams now. I also really like the r codes in homework because they help me visualize the distribution and see how the theories work. However, the required discussions on portal have increased which give me lot of pressure.
- o Student 15
 - **Reason:** Elective within major or minor
 - **Effort:** I constantly reviewed notes and spent swathes of time on the strenuous homework assignments. I put a lot of time into studying for tests and tried to consistently stay up to date with class discussion.
 - **Understanding & Appreciation:** I feel as though i gained a very solid understanding of the course material. Although it was difficult, i am leaving the class confident I learned a lot this semester.
 - **Intellectual Growth:** The class had assignments that encouraged consistent and constant work. Also the problems were designed to foster creative thinking for problem solving.
 - **Quality:** The teaching from Professor Cipolli was excellent. He clearly knows the subject well and answers questions helpfully. Strengths include his helpfulness during office hours and his willingness to listen to the class on what we want. The tests and homework were long and difficult, but excellent preparation and fairly assembled from our in class work. The course was conceptually difficult for me, but Professor Cipolli made a personal and genuine effort to help me.
 - o Student 16
 - **Reason:** Elective within major or minor
 - **Effort:** I put maximum effort into this course. This course was extremely hard probably the hardest course I've taken, so I had to put maximum effort into this class to not fail.
 - **Understanding & Appreciation:** The course really confused me a lot, there were somethings that I understood and made more sense to me, but a lot of what we learned confused me more about the topic. The subject of statistics is really interesting, but this class was extremely hard and didn't further my understanding of the subject.
 - **Intellectual Growth:** This course caused me to have to really use time management, so that I could do okay in this class, while still putting effort into my other classes and not forgetting that those were important

too.

- **Quality:** The professor definitely cared about the students a lot, however the class was extremely difficult and in terms of the material I always felt behind in the class even when I would be going to class. A strength of professor Cipolli would be how much he wanted the students to succeed, however a weakness would be the emphasis this class had on material from previous classes that were not Math 317. I also do not feel that I have gotten anything out of the out-of-class discussion board. It is nice to have the option to get help or help peers, however it is extremely hard to ask questions or answer questions from behind a computer screen, which makes the out-of-class discussion board not very helpful.
- o Student 17
 - **Reason:** Major or minor requirement; Elective within major or minor; Interest in the course material
 - **Effort:** This course was quite a bit of work. Problem sets were long and difficult but helped reinforce material and were given with plenty of time. Tests were reasonable.
 - **Understanding & Appreciation:** Its given me a nice understanding of statistics and the theory behind it to add to basic intro stat material.
 - **Intellectual Growth:** Its definitely motivated my interest in statistics and hopefully will help me pursue a career in a similar field.
 - **Quality:** Professor Cipolli is interesting and very knowledgeable on the subject. He has tons of office hours and gives out lecture notes that are extremely helpful if lectures are confusing. He is also very helpful in office hours answering questions clearly and with regards to hw, he guides us in the right direction as opposed to just giving us the answer.
- o Student 18
 - **Reason:** Major or minor requirement; Elective within major or minor
 - **Effort:** I put a good deal of effort into the course by working hard on problem sets and going to office hours
 - **Understanding & Appreciation:** I did not know much about statistics other than the basics, so I learned a lot more as a result
 - **Quality:** Prof. Cipolli really cares about his students' learning and wants to make sure everyone understands the material. He puts a great deal of effort in the class notes and making sure he writes them on time. He should just be careful not to make some of his female students uncomfortable. I don't think he means to, but sometimes I felt as if he were hitting on me, and my friends agreed, so I felt uncomfortable going to office hours alone.
- o Student 19
 - **Reason:** Major or minor requirement; I really enjoyed having Cipolli in 316.
 - **Effort:** I put a lot of effort into this course. Homeworks took me at least 15 hours each and studying for

tests was a little more. I went into office hours as much as I could.

- **Understanding & Appreciation:** I definitely know 316 material really well after taking 317.
- **Intellectual Growth:** It definitely helped with my critical thinking. I was forced to think in different ways; we set both X and θ as set in different instances and learned how to work with different kinds of equations. It was a pretty thought provoking class.
- **Quality:** Prof Cipolli is a good professor and a great fit for Colgate. This semester he was a little less accessible and sometimes grumpy because of his intro to stats class. Since I had taken him before I felt comfortable going to office hours but he definitely wasn't as eager to help or as available as last semester. His teaching in class however was great and I like his presentation style. I also think Moodle was a really helpful learning tool that made us interact and learn from our peers.

MATH 354: Data Analysis I

Fall 2018: Section A

- o Student: 1
 - **Reason:** Major or minor requirement
 - **Effort:** not that much
 - **Understanding & Appreciation:** good amount
 - **Intellectual Growth:** yes
 - **Quality:** cipolli is a great professor and a great guy. he is funny and easy going and wants the best for us. give this man a raise
- o Student: 2
 - **Reason:** Interest in the course material
 - **Effort:** I worked around 8 hours every week to do homework assignments. I also tried to keep up with readings but found that a bit difficult.
 - **Understanding & Appreciation:** It taught me that unlike other areas in math, data science is not exact and is very similar to the arts. I learned about the assumptions you make when fitting various models and what steps to take to resolve issues related to those assumptions. Not only am I able to tackle statistical problems I can look at other people's work and critic it and give examples of where they could improve.
 - **Intellectual Growth:** It made me realize that statistics don't dictate individual experiences and should be approached critically. This course made me realize how statistics could be use to make inaccurate assumptions. It also showed me that statistics can take a large amount of data and summarize it so that it's easier to act upon when applied to science to policy make to business.
 - **Quality:** This is one of the best classes that I've taken. I often go through classes cramming information,

with much time to truly grasp things used in previous chapters, but this time around, either by the nature of the material or how the class was designed I feel very confident that I've walked away with something I'll be using in the future. I think the speed of the course and the focus on "productive failures" forced me to look back and build upon weaknesses. I think a weakness of the class was some of the lectures, I wished there was more interactivity in them.

○ Student: 3

- **Reason:** Elective within major or minor
- **Effort:** I spend around half an hour to review slides before class and around 20 to 30 hours for each problem set.
- **Understanding & Appreciation:** I learned about how to build regression models to assess a set of data.
- **Intellectual Growth:**
- **Quality:** Professor Cipolli is very smart and responsible. He definitely puts in a lot of hours every week preparing for lectures and course materials. I really like that he offers a lot of resources on moodle for our use. However, I feel like he can improve a little bit in his way of presentation, since some less than intuitive concepts went by unexplained and his answers to some class questions were a little bit hard to understand. In addition, I think his problem sets are too long. Many of the questions are repetitive, from which I benefit little.

○ Student: 4

- **Reason:** Elective within major or minor
- **Effort:** I put a lot of effort into doing the work and understanding the material.
- **Understanding & Appreciation:** There were many interesting topics and areas of study where what I learned in this class could apply.
- **Intellectual Growth:** I got experience in working with R.
- **Quality:** The class was great. The feedback we got on homework and tests was very helpful. I think being able to do more hands-on examples before tests would've helped.

○ Student: 5

- **Reason:** Elective within major or minor
- **Reason:** Interest in the course material
- **Effort:** I put a lot of effort into this course, the material was difficult and grasping the material took time and engagement with it. Time management proved to be very important in the course and definitely helped in easing the work load. That being said, after putting in the effort and work to engage with the material I found it to be very enjoyable.
- **Understanding & Appreciation:** Most of the time this course did contribute to my appreciation of the

field, however, my understanding of the course subject differed per day. I felt as though I understood most of the material after going through the examples and the homework but during class, especially when lecture focused on the large complicated equations used, I felt lost.

- **Intellectual Growth:** I think this was one of the few classes I have taken here that actually feels very applicable to what I want to do after college, it made me more convinced that I want to do something with data analytics in the future.
 - **Quality:** I think Professor Cipolli cares a lot about the performance of his students, it seems as though he really wants students to succeed. He seems very excited about the course material which I found to be refreshing and helpful in my engagement with the material. However, his lectures were sometimes boring but I think this was at times necessary as there doesn't seem another way to teach some of this.
- Student: 6
- **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Effort:** This was a particularly difficult class for me. I have never taken any of the prerequisites except for Math260, which does not deal with r code or data analysis. It still continues to be difficult and challenging, but is very interesting and I know the hard work will pay off in my learning after I graduate.
 - **Understanding & Appreciation:** This was my first introduction to statistical work, coding in R, and data analytics. I really enjoyed learning about these topics and have a greater appreciation for data analytics.
 - **Intellectual Growth:** This helped me to think about how I could apply my skills once I graduate. I am a sociology minor and this correlates perfectly with the idea of data sifting and analytics that I am interested in doing in the future. I think that applying these skills to research would be an excellent way to expand my education past this course.
 - **Quality:** I thoroughly enjoyed learning from Professor Cipolli this year. He is great in office hours and really has a passion for this subject. I had a tough time because this class allows students with a range of skills/backgrounds in math, comp sci, econ, and stats, and I felt like I was and still am very behind many other students. Professor Cipolli was always helpful and encouraging in office hours, yet for me it seemed as if the course lectures were catered towards students with a much higher level of understanding in this material than others.
- Student: 7
- **Reason:** Reputation of the instructor
 - **Reason:** Interest in the course material
 - **Reason:** I was extremely interested in the course material from both an academic and a potential career perspective. Additionally, Professor Cipolli's reputation was that of someone who has an excellent grasp of

the material and is extremely good at conveying the material to students.

- **Effort:** I put in a medium-high level of effort into this course.
 - **Understanding & Appreciation:** This course thoroughly explained the course material and directly increased my appreciation for the subject. Upon enrollment, I was unsure whether it was a subject I would wish to pursue in the future, but upon (near) completion, I must say that my understanding and appreciation have both increased tremendously.
 - **Intellectual Growth:** This course consistently contributed to my intellectual growth beyond the course subject. Material in class was tied directly to real-world examples through homework and classwork and developed/blended skills from a number of disciplines.
 - **Quality:** This course and Professor Cipolli's teaching of this course have exceeded my expectations. He has an incredible grasp of the material, understands how to convey it to students, and is beyond willing to work with students to ensure understanding, rather than simply a grade. His lectures are full of useful content that clearly explain the material and he is extremely receptive to questions, providing valuable answers that often explain not only the material, but their relation to previously covered material. The focus on understanding the topics presented is unrivaled across nearly all courses I have enrolled in in the past four years. Note: Thank you Professor Cipolli - this course, and more importantly your teaching of it has been incredible.
- o Student: 8
 - **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Reason:** I was very happy to see the math department offer another applied math course that expanded on the math260 computational practice
 - **Effort:** This is certainly the most time intensive course of my semester. The homework assignments were very long and difficult and I felt could not have been completed without going to office hours multiple times. They did help me learn the material however
 - **Understanding & Appreciation:** This course is certainly motivating me to continue my studying of applied math. I really liked the examples we studied and learned with.
 - **Intellectual Growth:** It was a very hard class that challenged me and my time management skills.
 - **Quality:** Professor Cipolli did a great job teaching this course overall in my opinion. He was incredible accessible and always helpful when I reached out to him, even offered to meet through video call when I was away for an interview one time. The lectures were extremely boring however, I think its just the material he had to get through not his delivery, but they felt like very long classes. Overall, very happy I took this course and will try to take more courses with Cipolli

- o Student: 9

- **Reason:** Major or minor requirement
 - **Reason:** Interest in the course material
 - **Effort:** I always completed my assignments on time. When prof cipolli added the time spent each day to the homework, I was originally annoyed because it felt like middle school, but it actually helped me work on the assignment little by little.
 - **Understanding & Appreciation:** I definitely deepened my understanding of data analysis from the little I learned in my previous class. I feel well equipped to pursue my senior seminar which will have a lot of data analysis and use concepts from this class.
 - **Intellectual Growth:** It will help me in my future coursework as I finish my major as well as in the real world for making business decisions.
 - **Quality:** I really enjoyed the format of this class and the examples in the homework. I would have enjoyed doing more case studies during class because sometimes it could get a little dry. If we had time to look over data before coming to class, then working in groups to compare it would work well.
- o Student: 10
- **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I went to office hours occasionally and Professor Cipolli was very helpful and accessible. I put in a lot of time on the problem sets as they were quite lengthy and time consuming. Probably on average roughly 10 hours per homework.
 - **Understanding & Appreciation:** At first I was worried I didn't have enough prerequisite knowledge with coding and statistical background, but I felt as though I picked it up and was able to meet expectations of the class. I think I gained a good understanding of the material because of the time required to do the work. I came in with an interest in data analysis, and I think this course affirmed my interest.
 - **Intellectual Growth:** The problem solving skills I gained from this class are very helpful in application to other problems. I think that because data analysis plays such a large role in society today, this education applies to most aspects of life and can be implemented in many ways.
 - **Quality:** Professor Cipolli was excellent in being available and comprehensively teaching the material. He offered time to meet pretty much every day with flexible hours. Would have liked a little more clarity on grading even though he was thorough in his explanations and expectations. The clarification I seek is how are the letter grades from questions turned into a numerical percentage (what differentiates an A converted to a 93 from an A that is converted to a 96?). Overall I learned a lot in class and the problem sets reinforced my knowledge on the topic well even though they were very long.
- o Student: 11

- **Reason:** Major or minor requirement
 - **Effort:** I have put a considerable amount of effort into this course, far more than any of my other classes this semester.
 - **Understanding & Appreciation:** I have learned a lot throughout the semester. I have come to understand that data analysis is not simply about cookie cutter mathematics but more about telling a story.
 - **Intellectual Growth:** I have learned to explore all avenues in an exhaustive search before deciding I am stuck.
 - **Quality:** I have really enjoyed my time in Professor Cipolli's class. He is attentive, organized, and clear in his lectures. The only two areas I feel that his teaching can improve are in structuring the workload for the course and making lectures less monotonous. Other than that I have learned a lot and am thankful for my time in the course.
- Student: 12
- **Reason:** Elective outside major or minor
 - **Effort:** I put an immense amount of effort into learning the course material and Professor Cipolli was constantly available to help me.
 - **Understanding & Appreciation:** I gained valuable insight into the world of data analysis through this course and have acquired the tools necessary for me to advance in my career down the line. I have learned so much about the numerous possibilities to consider when performing data analysis and I have come away with the skill set to draw conclusions from raw data sets.
 - **Intellectual Growth:** In teaching the material in this course, Professor Cipolli constantly gave real world applications. In working with these real world applications I was ultimately able to extrapolate the skills I learned to my Economics courses in order to build better models and come to more unbiased conclusions.
 - **Quality:** I think Professor Cipolli is of the highest quality and his ability to teach difficult material in an interesting way is second to none. He constantly made himself available for questions or difficulties that the class may have had and tailored lectures and pace to our learning rate. It was clear that he genuinely cared for the success of his students.
- Student: 13
- **Reason:** Interest in the course material
 - **Effort:** I put in a lot of effort into this course. I did every homework assignment far in advance, visited office hours frequently, did all course readings, and attended every class session.
 - **Understanding & Appreciation:** I had a general interest in data analysis, but was unsure of whether I wanted to really go down that path in the future. This course has confirmed that data analysis is a passion, and I am so glad I took this course. My appreciation and understanding of the subject were both significantly

increased as a result of the course.

- **Intellectual Growth:** This course helped me evaluate what I see in news articles, giving me a familiarity of how statistics are applied in everyday writing. As a result, I see the world in a much more critical lens and have a far greater time understanding what I read, both in terms of news and academic papers. Additionally, this course helped me improve my time management skills, based on the way the professor structured homework assignments and other due dates.
 - **Quality:** This class was a lot of fun to be in, extremely engaging, and taught me a lot. The instructor is clearly very dedicated to the success of the students, in a way I have not seen before in any class at Colgate. This is not criticism of my past professors, but rather testament to how dedicated Prof Cipolli is to his students. At every step, Cipolli did everything in his power to make himself and resources available to students, including creating a long typed up document of notes after a student's suggestion, and even being available for Google Hangout calls over weekends. The professor treated us as colleagues, as opposed to inferiors which is a more common experience with professors. He was incredibly adaptive to the way the students received the material, and how the assignments progressed. This is a stark contrast to the typical Colgate class where you receive a paper syllabus on Day 1, and that syllabus remains fixed and unchanging no matter what happens. Cipolli took the time to see what methods were most successful for the class and adjusted accordingly. Perhaps my only complaint is that the class was sometimes too adaptive. As a student who refuses to miss a deadline, at every step where Cipolli extended deadlines or changed expectations (such as making certain problems ungraded after students had already submitted the problem set, or delaying homework due dates by nearly a week only two days before it was due and diligent students had already completed it) it was sometimes frustrating to have put the hours in and not have it mean much. There were times where I spent far more hours than I would have liked on a homework, with the intention of having a good copy to turn in by the day it was due, only for the deadline to be moved and nullify the hours I had spent on it. Otherwise, I have no complaints about this class. The material was well taught, and the class was immaculately planned and documented, with each lecture having the slides posted as well as neatly organized sections of R code. After having become accustomed to such a level of clarity, flexibility, and available resources, it will be difficult to experience other less well-organized classes at Colgate. I look forward to taking more classes with Professor Cipolli.
- Student: 14
 - **Reason:** Major or minor requirement
 - **Reason:** Elective within major or minor
 - **Effort:** This course was great everyone had to essentially take a crash course into RStudio and learn on the fly but the professor made it work.

- **Understanding & Appreciation:** This course helped me see that while there are various models that can be fitted and tests to check assumptions on those models each model could very well be different. It is important to take into consideration how one wants to represent data and where that data is coming from.
 - **Intellectual Growth:** This course helped me think more critically and ask questions before we even begin to build the model that would help us assess and interpret the data that we were given.
 - **Quality:** I think that the professor did a fantastic job teaching this course. I know that everyone in the class had a different background in terms of code and stats but he took that all into consideration and was very respectful and willing to adapt the course. Thanks for everything!
- Student: 15
 - **Reason:** Elective within major or minor
 - **Reason:** Interest in the course material
 - **Effort:** I put a decent amount of effort into this course—it was hard as even though we had few homework assignments, they were long homework assignments. He encouraged us to start them ahead of time, and I honestly tried too but it could be hard with other assignments and my involvement in extracurriculars. I do think I put a substantial effort into my work though.
 - **Understanding & Appreciation:** Because of the use of real world examples, I was able to get a good understanding of what data analysis is really about. While the lecture material itself could sometimes be dry (just by nature of the material and the fact that it's hard to teach code), the examples used to convey this information were highly interesting and held my engagement in the class.
 - **Intellectual Growth:** I am very interested in data analysis as a career and this course helped me realize that what I want to do someday is some form of what we have been doing this past semester. I have always been interested in applications of numbers/math in the real world and the use of examples like stop and frisk data, or spotify playlists, have really solidified my interest and appreciation in the course subject
 - **Quality:** We were always encouraged to come to office hours and ask questions about material in class or on the homework, which contributed to a positive learning environment. This is the first time the course is being offered here, so obviously it's not going to be perfect. I wish we had spent more time discussing how to really craft a 'good' data analysis paper, however I do think quality of teaching was high in this course and I can tell Professor Cipolli has genuine enthusiasm for the material and cares about each of his students.
 - Student: 16
 - **Reason:** Major or minor requirement
 - **Reason:** Seemed applicable to real world scenarios
 - **Effort:** This class required a lot of effort. While the exams were less difficult the problem sets were brutally hard and required lots of hours. Sometimes the questions were vague but overall the problem sets required a

lot of effort and critical thinking.

- **Understanding & Appreciation:** I really understand the content better because of this class as it goes way beyond a basic statistical understanding. The complexities of these problems are introduced well and are challenging but interesting.
 - **Intellectual Growth:** This class did interest me in attempting side projects and working on different methods to solve for the problems. As such I learned a lot as the problems were difficult but the professor applied lots of interesting real world applications which kept the objects interesting.
 - **Quality:** Strengths are engaging professor who understands the content well and is highly qualified to teach this subject. The enthusiasm is contagious and interests students into working hard for exams and topics. Weaknesses are difficulty worded questions on problem sets and sometimes unclear expectations.
- o Student: 17
- **Reason:** Reputation of the instructor
 - **Reason:** Interest in the course material
 - **Reason:** I took it so that I would have 4 courses and it seemed to be interesting. It's not for major nor minor nor needed credit.
 - **Effort:** I unfortunately did not manage to put enough effort into the course in terms of completing assignments in a timely manner.
 - **Understanding & Appreciation:** I realized that I really don't have any passion left for physics or math anymore. After going to Germany and studying physics there I'm very burnt out.
 - **Intellectual Growth:** I learned, and am in the process of learning how to manage time better and do work which is necessary to complete, but I have no desire to do.
 - **Quality:** As for strengths. Professor Cipolli was extremely accessible at anytime. He almost instantly answers questions on the discussion board, is in his office most of the time and when he's not he's still reachable. He also leads class in one of the most exciting ways I've seen throughout my schooling. He's very energetic and interested in what he is teaching. In terms of assignments. He gives feedback after grading, and is open to help throughout the process. If an assignment is late, he values more the learning of the material as opposed to applying a penalty and forgetting about the assignment. I think this aspect in teaching is very valuable. Another not for organization is that he has weekly "diagnostics" which allow him to get feedback in teaching and evaluate where the class is. This helps tailor the lectures towards information which is useful for the class on a certain day. As for weaknesses, I can't think of any.

Student Feedback from University of South Carolina

Last updated: August 15, 2016.

This portion of the document provides a complete summary of student evaluations during my 4 years as a Graduate Assistant (Fall 2012-Spring 2016).

As a Graduate Assistant at **The University of South Carolina**, I have taught 2 different courses:

- o STAT 201: Elementary Statistics
- o STAT 515: Statistical Methods I

It is required that each student completes a course evaluation towards the end of the semester. One question asks the student to rate "the overall performance" of the instructor. A standard 5-point scale is used as a measurement system (5 = best).

STAT 201	Spring 2016	4.6/5
STAT 201	Fall 2015	4.73/5
STAT 515	Summer 2015	4.6/5
STAT 201	Spring 2015	4.8/5
STAT 201	Fall 2014	4.8/5
STAT 201	Summer 2014	4.9/5
STAT 201	Spring 2014	4.9/5
STAT 201	Fall 2013	4.6/5

Below I provide handwritten student comments taken from the evaluation forms at USC for the question "please comment on what you feel are the positive and negative aspects of your instructor and his/her teaching outlook;" every (legible) comment has been included.

STAT 515: Statistical Methods I

Target audience: Undergraduate and graduate students from other majors

Summer 2015

- o Teacher cares and is funny. It's my second time taking it and I learned a lot more than the first time with a different teacher.
- o BEST INSTRUCTOR EVER!!!!!! WE NEED MORE PEOPLE LIKE HIM TO TEACH!!!
- o Will is amazingly gifted at both statistics and the R software. Unfortunately, I think it's hard for him to see from the POV of someone who doesn't understand it as well.
- o Will is one of the best teachers in the math department that I have encountered.
- o Very good/passionate teacher, but at times I feel like you know the subject so well you assume we do also &

really we don't. I enjoyed the class though.

- He is very nice and makes class fun, but since it is a graduate level course he seemed to assume we did not need help and did not seem to care if we were interested in the material. I would have appreciated a little more help when I came to ask questions
- There was too much focus on the PowerPoints and not enough practice problems in class. The homework was helpful but confusing at times because we didn't do problems in class.

STAT 201: Elementary Statistics

Target audience: Undergraduate non-majors (mostly freshmen and sophomores)

Spring 2016

- Will did a great job teaching.
- I like the standards method Cipolli uses. He's good at explaining the material.
- I think a positive aspect about my instructor is that he always came in with a smile.
- Will is open to new ways of teaching. His goal is for you to learn and he will do whatever it takes to ensure that you do.
- Positive: very knowledgeable of the material. Negative: could be sarcastic with students(though most deserved the sarcasm) and could be seen as unprofessional.
- Positive was the many attempts at certain standards. Negative was the online portion.
- He has a very efficient way of teaching. He explains everything clearly and go through several examples to fully provide us practice.
- He's a good professor and teaches us what we need to know. Love his grading system.
- Positives: I loved how I did not feel stressed about grades during the class. I also love how much he cared through office hours and emails etc.
- Will cares about students and their grades. Sometimes more than his students.
- Genuinely cares about his student's success.
- I like the way he did standards, it helps intrinsically motivate us and actually learn the material.
- I hated the homework. Instructor was very clear and fair. Instructor was always willing to help and made the material easy to learn.
- I loved Will! He is an awesome teacher and actually cares whether or not his students learn stuff.
- The teacher taught the content extensively and in an enjoyable manner.
- Went really fast on some of the harder topics.
- Postive: great at answering questions. Negative: None.

- Will is great! He has a sarcastic personality which is funny but I know several people were intimidated to approach him for that reason.
- Positive: Willing to help, answer questions, grading using standards. Negative: Rude to students (comments).
- The unique way of grading standards separately allowed me to feel less anxiety regarding my grades.
- Some of the positive aspects is that he is prepared for class and well at speaking.
- He takes the time to explain each step and each method.
- He eventually modified the course to meet our needs. Some students find him blunt but I didn't find it to be a problem. He puts a great deal of effort into the class and into making sure we understand the material.
- Very enthusiastic and wants everyone to pass. Some subjects went a little fast.
- Was one of the best professors I've had through out my college years.
- I thought the course was good and the standards were great. Made the class much less stressful.

Fall 2015

- Positive: humorous, cares; Negative: sarcastic.
- Instructor was great! No negatives.
- Positive: Quizzes
- Enjoyed all aspects of course.
- Actually learned
- He is very concerned with student progress and is very willing to assist a struggling student if they come to him during office hours.
- He is a very good teacher and understands students and how to teach. I had a great time coming to class and it was actually fun to learn statistics.
- I love the way my instructor taught
- Pos: Always made time for extra help, very fair, well educated in statistics, good communicator, nice and helpful teacher
- I felt like Professor Cipolli was a great instructor and he meshed well with students.
- Very helpful instructor - he made sure everyone understood the material fully before moving on.
- He is adorable and very happy about statistics.
- Awesome instructor!!!
- Professor Cipolli showed a clear desire for each student to learn and succeed; not just in class but in general. He was passionate about the material, was readily available for questions and was an excellent professor.
- Enthusiastic about the material and very well dressed.
- Relates class and studies to modern times and current events. Motivates students to learn material and excel.

- I do not like PowerPoints, but he is enthusiastic on teaching statistics.

Spring 2015

- Will did a great job of making class fun and interesting! He cares about all of us and wants us to learn the material. The only problem I came across was understanding the material on the PowerPoint slides. I am very happy I took Will's class and he was extremely helpful by offering extra help after class and extra problems for every chapter.
- He was a great professor. He made it easy and fun to learn. He was always funny. Sometimes a little intimidating but overall one of my favorites.
- He does a great job making the lecture fun and clearly teaching all the material
- Will is a great instructor who really cared about his students. He was understanding and patient with all of us and our questions.
- I thought he did a great job explaining things and using examples that would help me on the test. Thanks for grading things so quickly.
- The positives of my instructor are that he is very enthusiastic and always comes into class in a positive mood. He teaches very lively and energetically which helps keep the class involved. Maybe answer some questions more straight forward, other than that no negatives for Will's teaching aspects and personality.
- Very energetic and funny (makes class interesting) could work on going through the chapters more slowly. Sometimes it feels rushed and I feel like I don't receive all of the information I need.
- The PowerPoints are fantastic and most of the data used in class was pulled from our class so it made it interesting.
- Will was a nice fun guy but his teaching skills could still be improved. The explanation behind why and what certain statistical tests or variables could have been better but overall a good teacher.
- Very funny and relatable. Young and dresses nice so he was enjoyable to look at in class. Always came in with a smile and I really appreciate that.
- Very enthusiastic about the subject and motivates students to participate and learn rather than memorize the material.
- He really wanted us to understand the power of statistics which made the material very interesting.
- I liked this teacher. He always had a positive attitude and motivated us to learn. Wish I had him next semester.
- Will is the best teacher at USC. He actually cares if you learn the material. I have nothing bad to say.
- I learned a lot this semester and will made the class interesting which helped a lot.
- Very positive and willing to help.
- It was obvious that Will really cared about his student and wanted them to do well. All teachers should have

this quality. Provided more resources for extra practice than all of my other courses combined.

- Will was an amazing teacher and so passionate about stats. He really wanted students to learn and do great as long as they took effort.
- Very interactive with the class, well informed, knows his stuff and funny.
- He did a great job taking the time to work out problems with us during both class time and office hours.
- Will is very outgoing, high energy person. He makes class interesting and is very approachable. His class is great.
- Will was overall an excellent teacher. He went above and beyond for the success of his students. He also made sure to answer all of my email, in class and extra help questions.
- He is passionate about the subject and wants the students to learn. He is fair with grading and absences. Overall, no negative aspects.
- Very passionate teacher. Extremely good instructor in my opinion.
- Will was good with the students and clear during lecture. Was always willing to go over things if unclear. A+ job.
- Friendly and approachable. I didn't like working with classmates to independently figure out/solve on our own.
- Great! Really cares that the students learn and do well.
- Very energetic which helps the students stay awake/pay attention. Cares about the quality of students education.
- He is a great teacher and motivates the class to do well.
- He cares about the content and students learning the content and understanding how the course does impact things you do everyday. Strong knowledge of the material.
- Concerned with students – helpful/approachable but sometimes unclear with examples in class.
- He knows his subject well and enjoys teaching it but can get off topic.
- Very motivated, gives good lectures but goes over the material a bit too fast.
- Always willing to meet with students, provided extra material, timely grading and used different teaching styles to accommodate everyone.
- Will did a great job of making the class enjoyable and understandable. I would highly recommend others to take his class.
- He is very helpful, approachable and funny. Makes things interesting and gets you involved. Knows what he's talking about. Maybe just slow down the emails a little.
- He is very energetic and makes AM class bearable.
- Fun, understanding, knowledgeable. If you ask a question he will give an answer and be able to explain it. Very approachable.
- Everything was great.

Fall 2014

- Will did a great job and really knew his stuff. Would definitely recommend taking his class!
- Will is great. He loves what he teaches and it shows. He respects all his students and encourages them to learn. Would recommend to anyone.
- Funny to keep us engaged. “Laid back” and gives second chances.
- Great teacher. Enthusiastic and willing to help out in any way possible.
- Will is one of the best professors I’ve ever had. He is always willing to help out his students and is willing to meet up with students during office hours. He is clear as to what he expects out of his students. He keeps the class interesting and engaging.
- He cared about the students and had energy – nothing negative.
- Very knowledgeable and made an 8:30 math class fun. No negatives.
- I feel like Will was a great instructor He actually wants his class to succeed and make good grades. Wonderful!
- Really motivates students to learn, while making the subject fun.
- Very good at keeping students interested.
- Good teacher, keeps it interesting even though he knew class was out of it at 8:30 in the morning. Can tell he enjoys what he does.
- Teacher cared about students and their grades, helped us when needed. Always responded to emails. Best mat teacher I’ve ever had.
- Great in all aspects
- I enjoyed this class and the teaching by Will. He enjoys what he does and makes learning a better experience.
- HE was a pleasant person but was vague when we asked questions. He was sarcastic in points where students were serious. He knew what he was talking about and teaching but didn’t understand when students didn’t learn as easily as others.
- He wants to help you, you just have to ask.
- Will was always engaging and wanted to present the material in an interesting way. I found his use of class data the most fascinating part of his class.
- He was clear and was able to answer questions precisely but we didn’t do a lot of work on our own in class.
- My professor was a very good professor. Full of energy for an 8:30 class. Really enjoyed him – don’t really have anything negative to say just wish he gave a little extra credit.
- Very upbeat for the morning which is good but made us feel guilty sometimes for not being upbeat.
- Great teacher and person. Makes you earn the grade.
- I don’t have any negatives. He made class very interesting and fun to learn. He was always willing to help you with whatever you were stuck on.

- Makes the information easy to understand.
- One of the best teachers I've ever had.
- Overall, he is a fun teacher and is easily approachable. I felt like he was teaching us higher level statistics time and/or he might have made the material presented seem harder than it should be. Work on explanation of course work so it's easier to understand.
- The instructor made the class enjoyable and was very clear when explaining the material.
- Will loves teaching and he is very good at it.
- Will was a really great professor. Not only did he teach the material well, but you could tell he really cared a lot for his students. He was always willing to do whatever to help us learn and he cared that we learned statistics past the spectrum of this class.
- Will always has a great attitude and tries to make the class entertaining and engaging. He has a lot of knowledge of the material and is always happy to help.
- He was very understanding and seemed to really care about his students, negative - none.
- Challenging but its good to have a challenge.

Summer 2014

- Extremely smart and enthusiastic. Always trying to make thinking about things simple. Great teacher.
- Outstanding Teacher.
- Very friendly and outgoing which makes the subject interesting.
- Very enthusiastic. Caring approach to teaching but sometimes the pace was too fast to listen and understand.
- Will is an excellent teacher. I hate math but enjoyed learning from him this semester.
- Will is a great teacher and his ideas are better than whoever is making them now.
- Will was great
- Will's enthusiasm is easily his strongest trait on top of his extensive knowledge of the material. Nothing negative to report.
- Very explanatory and helpful. Best stat professor by far!
- Will was always quick to answer emails and his tests reflected what we learned in class.
- I enjoyed his take on the subject matter and how it applied to many aspects of life and many careers.
- Will was an excellent professor. Made stat 201 an excellent summer course.
- He was enthusiastic and took time to answer any questions I had. He seemed to want everyone to try their best and understand the material. He had great powerpoints.
- Great guy – very personable. Willing to help. Not so many powerpoints please!
- Super well prepared (site, video, lab walk-through). Personable.

- Awesome!
- Practice exams and website help immensely. If you do not want something in your class, rewards students instead of punishing them. Positive reinforcement is always more successful than negative reinforcement.
- Wonderful teacher, very personable, knowing what he's doing. I would recommend him to everyone!
- Great teacher, really help explain problems in a way that's easy to learn.
- He was a great instructor and did his job very well.
- Very patient, laid back and responded quickly to emails. Negatives: none.
- Really enthusiastic and willing to help
- Very helpful to students
- He was very enthusiastic about the material. He used examples that were fun and meaningful.
- Seems to really enjoy teaching and tries to engage students in the importance of statistics by showing examples of everyday usage. Labs were hard to understand during lab time, but understand it when I got home and looked at it.
- Will is a great teacher, this was the first time I didn't fall asleep in a math based course. I enjoyed it.

Spring 2014

- Very enthusiastic and cares about the material and the students!
- I loved this class. I'm not a math person but I understood stat through his teaching.
- He's always prepared and on time for class but got upset when proven wrong.
- Great professor – makes statistics pretty easy for people who don't get math at all! Loved him!
- The best stats teacher I ever had. If there was a perfect teacher, he's perfect.
- Will was one of the best professors I have had at this university – he motivated students to learn and had a lot of charisma which made the class interesting.
- Will does a really good job of emailing back and helping understand the material.
- He was a great teacher. Very helpful.
- He made statistics very enjoyable. I learned so much!
- Cool professor, very laid back and knowledgeable.
- Made class interesting.
- Good, easy going.
- He made stats fun. Always was a joy to come. Also he was very helpful.
- Will was always positive and in a good mood.
- Great professor, I just hate math and I'm very bad at math.
- Very easily made the course more interesting and was over to get students involved.

- Kind of hard to still understand.
- Very helpful, willing to explain things.
- Sense of humor!
- Will was great! Generous and helpful!
- He literally is the best teacher I've ever had. Will helps students with anything they need help with and wants his students to succeed.
- Positive: Expressive, fun, gets people excited and involved.
- Really connected with the students.
- He is passionate about statistics and does his best to be fair about the class and materials.
- I felt he really cared about us and wanted us to succeed.
- Best instructor in the math department thus far.
- By far the best instructor I've had in five years at USC.
- Very concerned about his students. Goes above and beyond what is expected of a professor. Give the man a RAISE!
- Will is a boss!
- Mr. Cipolli really cares about his students and motivates you to learn the material.
- Makes class interesting.
- Really cares about teaching and gives good examples in class.
- Course is well organized.

Fall 2013

- He kept the class entertaining
- The positive aspect is his energy. He loves his job and he is a great teacher. I would recommend him to everyone. No negative aspects.
- He was very enthusiastic about teaching and did his best to help us learn the material without making it difficult.
- He was very concerned about the students grades and graded fairly.
- Class act. Great professor. Best math course I've ever taken.
- He moves at a great speed and goes above and beyond to help us.
- Class was too easy. You could see how exhausted everyone was. The notes were very helpful.
- I feel will was very knowledgeable of the subject and taught it well but I feel like he was too nice to the students and gave too many extra chances.
- Very positive and helpful – evident that he wanted students to learn and understand material.

- Will is sunshine on a cloudy day. He's a real chill dude and knows all kind of stuff about stats. He is the man, plus he is a very snazzy dresser.
- PowerPoints are good and helpful. Study guides are also helpful. Good teacher.
- Great instructor!
- He's a very helpful instructor and wants students to learn the material. He should be a little stricter on the homework.
- Will was a great instructor. He was very fair and pushed us to do well. He taught the information in a fun and interesting way.
- He was down to earth and approachable – he got off topic often though.
- Really motivated students to learn the material – no due dates and moved a little fast.
- The positive aspects of my instructor is that he makes sure everyone understands the material and does a lot of examples.
- Very active and made the class lectures engaging. Was about tests and grading. No negative aspects.
- Will truly was an amazing teacher. Even though I hate math and struggled with my goals, Will never gave up on me and always answered my questions with patience and care. He really is a talented instructor and I would recommend him to anyone.
- Very laid back attitude and brings the material down to our level. Sometimes moves too fast.
- He's smart and knows the material but sometimes isn't thorough enough.
- He's always willing to help, but no jolly ranchers.
- Very understanding and helpful.
- Class was very early and not mandatory so it was hard for me to get motivated to attend. Teacher was fair and approachable.
- The professor was really funny and had a good attitude throughout the course. He really wanted students to learn the material and helped us a lot.
- Just great.
- Very good teacher. Cares about students and grades fairly.
- Great instructor, didn't over complicate the subject at all. Made the class fun and interesting.
- Helpful – study guides are good and he explains the material well.
- Knows his stuff and is interesting, learning math at 8:30AM is just hard and that's not his fault.
- Very concerned about students learning and progressing. Has flexible hours outside of class.
- Makes class fun and makes you want to learn.