

## Teaching Dossier

### Semesters' Reactions

#### Fall 2016 - Overview

Adjusting to Colgate University from University of South Carolina was slightly more challenging than I had thought it would be. The students here not only desire to be challenged but go out and seek it. The level of rigor expected in the upper level courses is unparalleled to my previous experience and getting the level right took some getting used to.

I had an idea that the difference in student would be significant moving from an R1 state school to a smaller, private and prestigious liberal arts college but this difference was much larger than I had anticipated. I went in assuming that students would be generally better prepared and harder working but they outpaced my expectations!

After receiving many inquiries for an independent study in machine learning we put together a small group of students via a Slack channel. These students worked together on a handful of data science competitions and often did quite well with very little training. We look forward to continuing these competitions next semester.

My goal is to empower students to reach their highest potential by making difficult subjects in math and statistics seem more comfortable by displaying material with relevant examples in digestible pieces. I'm hoping to find a balance of digestible, challenging and interesting going forward in a way that doesn't negatively affect any students in a mixed experience classroom by considering the items mentioned above.

I had a conversation with a student after the final exam. They were the last student to hand in their exam and they were obviously upset with how they had done. He mentioned the course is difficult for those who might not be up to speed on their calculus but that I had given him all the opportunities to do well, even though he might not have taken advantage of all of them he appreciated those opportunities.

I aim to not only teach the facts and formulas of mathematics but to help mentor and guide my students towards personal and academic growth and success throughout aspects of their entire college experience. My goal is to make learning an interesting and inspirational experience. I try to get the students to realize they are the most important advocate for their education and I back it up by taking their input and making changes.

Outside of the classroom I was able to help students with their theses in other disciplines, e.g. Geology and Astrology. I even got to complete more rigorous work with a mathematics major over the summer in conjunction with Aaron Robertson. Working in this capacity with students is new to me but also very exciting. It is excellent seeing what students are capable. Our summer student was able to do some great work in the cross section of mathematics and statistics; her summer research presentations were very interesting and went very well.

I am very happy to see all of the interest in statistics. With all the requests for independent studies, student theses, and further course work I imagine being very busy! I look forward to working with the chair of the department towards proposing more statistics courses culminating in a statistics major and perhaps working with computer science to create a data science concentration for Math-Computer Science students.

## MATH 316

I was given the freedom to plan the MATH 316 course, to make it my own. I changed the text book to *Statistical Inference* by George Casella and Roger Berger; this text is standard issue first year students at most graduate schools. I decided to make the change from *A First Course in Probability* by Sheldon Ross, which is the standard choice for most undergraduate schools at this level - in fact, I took my first course in probability with this text. While this text is renowned by many faculty for its plentiful examples, students generally find the book uninspiring. The examples speed through calculations by skipping steps replaced with phrases like "it's clear" or "it follows that" without fully explaining jumps. Proofs are generally not rigorous or omitted while conceptual explanation is largely missing.

This change in text was motivated by student sentiments of the text. The more advanced book would allow us to cover more challenging material and research-like questions, but I was worried that this level of text would not be digestible for students. In parallel to having the text I've developed notes for the course which covers topics in *Statistical Inference* but with all the necessary steps and real-world motivated examples.

I think this change was the most successful; the students really appreciated the clarity of the course notes. Obviously, since I wrote 175 pages of notes and code for the course during the semester there were some typos and needs for clarification as we went. Creating the PDF documents so that the derivations and examples wouldn't print required them to stay focused and follow along with the discussion. Without having to copy some of the definitions we were able to cover much more without losing anything.

Originally, I projected the notes and we did the examples on the board but after one class where the projector was not working I realized they were more engaged when we did more work than we had to on the board. Having to write out the assumptions and taking the time to talk about their implications was very beneficial towards connecting material from throughout the semester and the logic behind the solution.

Additionally, I implemented the use of Cran R for the course. While it is still not a coding course, the use of Cran R would provide many students with their first exposure to a statistical programming language and give them some practice while allowing them to visualize what we're doing with the theory. Initially we did some Cran R coding in class so that we could see what was happening while we derived the results but this seemed to take up too much class time and so I provided code in the notes and required some homework problems to be coded as well.

There was an interesting reaction to the use of Cran R in class. It contributed to the knowledge as many students enjoyed learning a statistical tool that they would be able to tout on their resumes and leverage for future work. Some students, however, mistook the purpose of using Cran R as more than just a visualization tool. Some students wanted a ground up coding experience and some students took the use of Cran R to indicate that we may be doing more application and less calculus.

Finally, I added an online forum for discussion on Moodle with the following instruction on the syllabus:

*Students should use the discussion board in Moodle as a safe place to ask questions and be curious about the course material. I expect students to answer such questions and to feed the curiosity of their peers through furthering the discussion; I will monitor the discussion board and chime in from time to time. This is intended to foster students' creativity and curiosity, and prepare them to think critically, ask questions and gain a lifelong value out of their education.*

The reason I had this as part of the course evaluation is that it's very important that students are able to converse about the topics, too. Particularly in the sciences, I feel the soft skills associated with the topics of courses are often undersold. Beyond the classroom, a student's ability to communicate the ideas of the course often outweigh your actual ability in completing the tasks - as computers will often complete the hard work the interpretation, the wording, is key.

Some students argued that this shouldn't be part of their grade and, while I agree that there are better ways to implement this, I will continue to require it. I will be making some edits to how I do this going forward to avoid the arguing; this semester I graded them at the end of the semester and instead I will now do so every few weeks. I feel that I was clear in the syllabus and with the almost daily reminders in class and via email, however, since participation is an 'easy A' in most classes by just showing up made this part of the grade calculation seem less important to students than maybe it should have been.

I had prepared roughly the first month of lectures before the semester started. Having checked my class roster and noticing that most students were not declared mathematics majors I drew back some of the theoretical math in favor of the application. In class we would derive and prove results and for homework and on exams they would apply those results or make small extensions.

I think this approach worked for a lot of the class - particularly the Economics and Computer Science students, but the Mathematics and Physics students felt like they could have done more. The workload was plentiful, but I can imagine the Mathematics and Physics students who are well versed in Calculus I and Calculus II found the course much easier than those who weren't. In hindsight, I would have likely done more evaluation on derivations and I will do so in later semesters. These questions would make it slightly harder, but not impossible, for the Economics and Computer Science students while making it more interesting and fruitful for the Mathematics and Physics students.

It seemed like this sentiment was shared by the Economics and Computer Science students - that the course could have better served them by being more applied and having more real-world examples. I often argued that we, in fact, have likely done far more application in that semester than any previous semester and that some course development needed to occur to create the classes they wanted to take. This led to the development of a data science club on campus.

Next time I teach this course there are several changes I would like to make, many of which extend to other courses I would teach. Now that I'm on campus and have a better understanding of both major and non-major requirements I think that I can move a bit quicker at the beginning of the semester. Since courses like Number Theory and Combinatorics are available many students had a comfortable understanding of set theory. I believe that working with the few exceptions outside of class to bring them up to speed would benefit the course schedule greatly - we can get more done and spend more time on the more challenging topics.

Another improvement would be to provide stronger rubrics to students. Often I equally weighted homework questions regardless of the amount of work necessary to complete them which made the amount of points for similar mistakes seem inconsistent. Going forward, I will judiciously assign point values to each part of each question based upon the amount of work required. This is an easy change that I think will be impactful for students - this way they don't have to wonder about how points will be awarded. I still plan on continuing the speedy feedback - this semester I returned both homework and exams the following class meeting.

## Spring 2017 - Overview

This semester April 1st we received an advisory from the dean of the college about a possible sexual assault on campus and May 1st we received an advisory of an alleged armed person on campus. It is a common, and generally well founded, criticism that professors in the sciences are hands off when it comes to social concerns or "feelings" of students, but I'd like to break that mold.

Attending teaching tables wasn't quite enough to know exactly how to react to this in class, but things I learned there gave me the tools to figure it out. At the LGBTQ inclusive teaching table we talked about "othering" students through making students feel marginalized by a heteronormative environment. Since then, I have made an effort to broaden the recounting examples of the lived experiences of marginalized populations, including but not limited to LGBTQ. I took a similar approach with these events on campus.

After the alleged sexual assault, we talked about the 2015 HEDS Sexual Assault Campus Climate Survey. This allowed me to describe some sampling techniques and numerical summaries while educating students about their community, the services and education opportunities available to them and, perhaps, how to view their actions through another's lens.

After the alleged armed person on campus, we talked about *Seeing Black: Race, Crime, and Visual Processing* (Eberhardt et al., 2004). This research suggests that merely exposing people to Black male faces lowers the perceptual threshold at which they detect degraded images of crime-relevant objects (e.g., guns and knives). Using data from the paper I was able to have students recognize experimental design and practice statistical inference while exposing them to social justice social psychology research.

I care enough to mention what happened by not making it an invisible problem and to reconsider these events in the educational setting. It is important to recognize there's a problem and to take a stance of prevention. I hope to spark curiosity in students to seek education on the topics that matter to them so they can ensure that they're making the right decisions.

Continuing with my influence outside of the classroom, I was able to interact with students during a Speakeasy funded by the Psychology department. I was invited to talk about artificial intelligence and found it was a great way to break down the barriers between what happens in and outside of the classroom. I found myself thoroughly enjoying the conversation I was able to have with students. They were very knowledgeable and genuinely curious.

I also planned and brought math students to the Hudson Valley Math Conference at Westfield State University. Three students attended and two presented their research, included one student who worked with Professor Robertson and I during the last year. I am constantly impressed by the quality of work provided by these summer research students and this was a very nice opportunity to see it off campus - they were quite impressive.

That same weekend I had organized students from the data science club we started to attend an ASA Datafest event at Vassar. I was pleased to find out that one of these students was on a winning team and the other students did a great job, too. I hope that as interest in data science grows at Colgate, we might soon be hosting a DataFest of our own!

This excitement about statistics and data science is echoed by the many students that I had visit my classroom during April Visit Days this spring. It was exciting to meet incoming freshmen, particularly one student that found me at the Faculty Reception to thank me and share their excitement for taking my course that coming fall. I enjoy advocating for the school and the area of Central New York - I've learned a lot about the community and I find that a very important part of what Colgate University is.

As I continue to adjust to Colgate University from University of South Carolina, I keep finding new things I have to become accustomed to. The first semester I found that the level of rigor expected in the upper level courses is much higher here than in my previous experiences. I extended this lesson to the MATH

105 and MATH 317 courses - the topics covered weren't more difficult, but I did increase the amount of work and the rigor of assessment of quality.

As a first generation student, I've come to realize that I, perhaps, have a point of view about education that differs with many students where I am perceived harsh or as expecting too much. While many things affect performance and learning, a student's resolve to do well is paramount to their success. My goal is to work with all students so that they are earning the grade they want while actually learning something they will use in their life or career beyond and including statistics.

To foster curiosity and effort in class I encourage students to ask for what they need. I aim to teach challenging questions but I want to provide enough resources that any student has what they need to succeed should they engage with the materials. In this light I am overly welcoming to answering questions in my office or by email. Continuing my open door policy with almost 180 students who are not timid about their education was not my best idea; providing a chart denoting how likely it is that I'll be in my office didn't help. Although I held eight office hours per week some felt I wasn't available because I wasn't in my office outside of office hours at some points when I generally expected to be there.

While I always want to be available to guide my students to success I found myself becoming frustrated with the constant interruptions of all the other work I had to do outside of office hours and this, at times, was visible to students even if the frustration was through the lens of wanting to effectively and timely create resources for the students. I feel like starting the semester saying yes to every student every time created this expectation and confusion when I started asking students to come during office hours instead and between stopping in and emails I felt interrupted every ten minutes and rarely got the opportunity to zone into my work.

Next semester, since I will have a significant number of students again I have to be more careful with my time. When I was cautioned about this, I thought it sounded self-serving; I wanted to give whatever time was necessary to my students. I realize now that protecting my time will make the time I dedicate to student interactions better. If I'm stretched thin and feel like I can't get things done I can't be as effective or approachable as I strive to be. I am going to make significant changes to increase the efficiency of communication with students next semester.

First, I will offer more office hours than required and I will be available by appointment but I cannot have the open door policy with so many students. Second, I will answer questions asked anonymously through Moodle instead of via email; instead of responding to ten emails asking the same question I can do it once and the history of question is available to other students. This will remove the frustrating repetition and time crunch created by my open door policy, while still remaining overtly and now consistent welcoming of students questions and comments outside of class.

## MATH 317

MATH 317 is a continuation of MATH 316 and I continued with the second half of *Statistical Inference* by George Casella and Roger Berger. Due to the success from last semester, I continued to develop notes for the course that parallel the text, with all the necessary steps and real-world motivated examples.

I continued using R to visualize the theoretical concepts of the course. Since some students did not take MATH 316 last semester, I had to take extra care to make sure that this course, too, was a gentle first exposure. I provided full examples of code in the notes and provide guided opportunities for students to practice using and editing code to complete new examples on homework.

Students continued to suggest that they wanted the course to be more applied, though it is a theoretical course. Toward the end of the semester, when appropriate, I used motivating examples to introduce new topics. I plan to continue this next semester; I look forward to finding and adding interesting motivating examples to notes and homework.

I believe students desire that applied experience in these theoretical courses because the applied part of statistics curricula is missing at Colgate. With this in mind, I will pilot a linear and non-linear statistical models sequence of courses as an independent study with a handful of students next fall.

Seeing Moodle discussion for a second semester, led to more frequent participation on the forum set up for the course. This semester I altered the grading to include multiple checkpoints to provide a stream of feedback, instead of just once at the end of the semester. I received feedback from students that it was more helpful this semester and the expectations were more clear with the stream of feedback, but many students still seemed hesitant; private discussions with students suggest that this is largely due to being perceived as "dumb" or their cultural values and norms inhibit their participation.

I believe that the ability to communicate the ideas of the course is integral to learning the subject, but it's hard to do so at the expense of student comfort. Going forward, I will not count participation in their final grade calculation, but I will encourage students to be curious and ask questions. While students might be shy or reticent, feel like they have nothing to contribute, or unsure how their question might be perceived by peers, I want students to understand the importance of discussion.

Next semester, I will engage a new strategy for spurring classroom discussion and questions. I will take care to explain how and why students benefit from talking and asking questions about the material, citing pedagogical research. I will continue to encourage students to incorporate content and new sources or concepts by asking questions that require them to extend their skill sets, perhaps adding open ended questions to homework assignments that model this behavior and require meaningful discussion in response. Additionally, now that it won't count toward the grade, I will explore anonymous forums so that student might feel more comfortable asking questions. I hope by defining discussion and question asking in a positive light, modeling that behavior, and removing some barriers to participation will lead to more productive conversations both in and out of class.

Participating in class is important for students learning outcomes as well as their academic and professional development of communication skills. Looking back on the semester I think I may have discouraged students by addressing the lack of participation - answering and asking questions. I believe, counter to conventional wisdom, that bringing attention to the issue only adds pressure; instead, I hope to encourage students to want to participate.

I've been working on showing students how to ask questions and what it looks like to be wrong in public and have a vigorous conversation about why. Part way through this semester, I started bringing only a summary of what I planned on covering each class. Instead of having a script, I had to work through the problems as they would and I did so aloud. Lecturing this way allowed me to better describe the thought process behind solving problems, and when I made a mistake we were able to talk about how to recognize and ameliorate the issue.

I think this approach might be key to getting the students to participate in discussing the course material. I want to make them feel comfortable by modeling what curious conversation looks like and by removing any judgment of their performance by showing being wrong provides a new learning moment. I had tried asking questions of them and group work, but this really seemed to have the biggest effect, while providing the opportunity to see what effectively grappling with a mathematical result looks like.

I think that reminding students of this approach is something that is important should I continue to go down this route. Some students, likely those that had the strongest Calculus background, commented about mistakes in class and taking the time to work out every step; while this approach doesn't help all students equally, I think that given the dispersion of math experience in the room it's important to emphasize pragmatic problem solving and to remind students of that purpose. Going forward, I will keep this feedback in mind - there could be more of a balance between problem solving and lecturing and a steady stream of explaining the benefits of those learning experiences in class to better serve all students.

Within such an environment, I hope to lead students to feel like their ideas are welcomed - even if they're wrong or disagreed with. Mistakes and disagreement are paramount to a well-rounded education. By encouraging students to realize the freedom to question, debate, and learn from each other while wrestling complex mathematical theory, I hope to guide students toward becoming critical thinkers who can persuade and be persuaded by facts and well reasoned arguments.

I think I can still work on the level of rigor. There was a wide variety of mathematical experience in this semester's students which made finding balance difficult. This semester I added some more theoretical derivations on homework and exams but I don't think that equally affected all students. Students with a stronger calculus background perhaps found these extensions interesting but not more challenging whereas students with a weaker calculus background found these extra problems quite challenging and too complex. Another avenue I can explore is to emphasize interpretations of the theoretical works in context of the course; this provides students with a strong background a new challenge and students with a weaker background an opportunity to excel in a less calculus-heavy aspect of probability and statistics.

I look forward to teaching and fine-tuning this sequence again. I think that a second run through the almost three hundred pages of lecture notes and implementing changes motivated by a year of experience at Colgate will make this a valuable course for students. I find it reassuring that two students asked me to be their advisor - I look forward to guiding them through their college experience.

Finally, I would be remiss if I did not comment on Student 18's quality response. Having had over 1,000 student evaluations this is the first time I received a comment anything like this and it really bothered me, even though the student couched this criticism by saying they didn't think I meant it. I earnestly try very hard to make every student feel comfortable coming to my office hours by keeping a relaxed environment accompanied by an open door policy to come talk about class, the news, anything that they need. I believe these small-group or individual interactions are often the most beneficial aspect of education at a small liberal arts school and having experienced that myself I strive to provide those opportunities for all of my students and take much pride in hearing that feedback most often. I did not like hearing that I failed to do that for even one student.

I've reached out to several faculty members, particularly those that see me in office hours and while I am upset that I made any student feel this way, I can come away with the benefit of keeping this in mind going forward. I know that all students have widely differing experiences and even though I leave the door open, remain entirely professional - though welcoming and laid back - some students might perceive what I know to be innocuous as discomfoting. I think being a young male who is very excited about teaching and getting students incited with similar excitement in a laid back setting with the intent of nurturing curiosity can be taken a different way; as a colleague mentioned "is he excited about the math or about me?" Keeping this feedback in mind, and that fact that not every student can know or expect that my intentions are pure will definitely ignite a more careful viewing through particular lenses for next semester.

## MATH 105

MATH 105 is the introduction to statistics course which is one of the largest lecture classes at Colgate. The course, as originally designed, contained much online course material - homework assignments and in-course evaluation was completed through WebAssign. My goal while planning and teaching the course was to make it feel like a usual, smaller, Colgate course.

I implemented the use of R for the course instead of spreadsheets; Google Sheets had previously been used. Students aren't expected to learn how to code from scratch, but to be able to get to a point where they can copy and paste working code and make minor changes to answer questions on homework and the writing assignments. There were some issues with hesitation to use a programming language, and difficulty with Mac file paths but the use of technology is important to the students' outcome.

While we used R in class, the only time I required students to use R was for the writing assignment. Since interacting with the technology was recommended but there were no assignments some students became frustrated when completing the writing assignment. Even though the code for the writing assignment was largely copy and paste - four lines needed to be slightly altered to complete their problem - students who didn't start their assignment early were frustrated while trying to complete the paper the day before it was due.

Students who had missed instruction or did not look back in the notes might have felt like they had to a complex coding assignment, but I never required more than copy and pasting from the notes with slight alterations. Next semester I will include R in each homework assignment so that students are required to familiarize themselves with R as a calculator before the larger writing assignment and I tend to be very clear on the writing assignments that the code necessary to solve the problem can be found on Moodle and specifying which file to look in. I think that a prolonged exposure to this "copy and paste" level of calculation will much improve the experience with R next semester.

I incorporated a textbook into the course requirements. There was no text previously, but I thought the online content available through Pearson would help students in their review of the material. I was able to create longer online homework assignments that build the students' knowledge along the way by allowing them to access the appropriate pages of text if they're stuck on a problem and they have access to walkthroughs of similar problems. Reading through the students' comments this was largely successful, but only using the online tool and not explicitly using the text made it feel like a waste of money since I didn't effectively explain that they are using the copyrighted material of the book through these homework assignments.

Feedback from the students suggested that they looked at the lecture slides more than the online textbook and, although they found the walkthroughs helpful, they thought benefit of the text and online material wasn't worth the investment; particularly with the plethora of practice examples and solutions I made available. With this in mind, I plan to create my own homework assignments through Moodle that include questions with R that will lead students to practice more and realize the power of technology while providing many additional practice problems and solutions for each chapter to make up for the resources that had been available through the textbook. This will entail a lot of work over the summer, but I believe that being able to further customize the homework to match student interests and current events will be added benefit.

I added a writing assignment to the course as well. Particularly with this broad-scoped introduction to statistics I try to present a holistic and accessible approach to understanding the communication of numbers by focusing on the reporting and interpretation of statistical information seen in daily life. By providing a foundation for interpreting and writing about statistics and exploring tools for displaying figures, I hope to arm students with statistical literacy and an ability to evaluate the veracity of research and news. This full-scoped assignment is also aimed at tying the semester's work together in a way that allows students to use their newfound statistical reasoning to real data about them.

As an introduction course that is often taken to fulfill a graduation requirement, MATH 105 attracts students from all over Colgate. A lot of times students from the humanities have trouble with motivation to learn statistics. I added a *Naked Statistics* for these students in particular. Many students benefit from reading the text, as it provides interesting anecdotes that motivate and explain the methodology as we cover it. This interpretation and reading of statistics is most important for a broad audience and so the course is aimed at statistical literacy too.

For a large numbers of students, multiple choice and fill in the blank evaluations are effective because they can rapidly provide feedback to students. With statistical literacy in mind, however, I want to ensure that evaluation of students required both calculation and interpretation - to incentivize students to learn the material in their own language. I think it's an important consideration to construct evaluations that



measures learning rather than test-taking skills. Toward this goal, I fashioned all of my evaluations after real-world statistics ranging from political news to social psychology research. This allows students to connect the material in class to their lives and practice their statistical literacy, maybe while learning something new about the world.

In MATH105 we cover roughly thirty statistical concepts, termed standards, in this course. Instead of giving class-long exams, students completed short pop quizzes across the semester where they were be evaluated on any of standards recently covered or, perhaps, be re-assessed on previous standards. These pop quizzes do not get a percentage score but, instead, questions are graded and tracked individually. I took much care to hold students to a high expectation while giving students enough resources to succeed regardless of their previous math experience.

Each standard is scored on a scale of zero to four as follows: four is perfect for the standard being assessed; three essentially contains the correct answer but contains rounding or final calculation mistakes; two does not contain the correct answer but does show work in the correct direction; one does not contain the correct answer or work in the correct direction; zero is for no response.

Students saw each standard at least twice and the most recent score made up this part of their grade. The most current score is used for grading to encourage long-lasting learning and discourage simple memorization of a particular standard for a quiz or test. Generally, it turns out that the most recent score is the best score as initial attempts are often taken as an invitation to revisit a topic more thoroughly. In other words, initial scores aren't permanent and students have opportunities to change them by taking poor performance as an incentive to learn. Since this was the first time many students have seen a grading model where they can do worse through retesting it seems unfair but we walked through an example that shows theres a letter grade increase in their second attempts relative to their first attempt.

This choice was clear after going to a few meetings to talk about how Colgate serves its first generation students and talking about how retention of particular students in NASC majors past the bigger introductory courses. I wanted to implement an achievement focused course outline so that students that learn at different paces or students that require additional feedback have equal opportunity for success in a Mathematics class that is dependent on previous Mathematics experience.

Since the scoring of standards is in terms achievement, the number of attempts to reach the mastery level, and a weighted average of your standards are considered when assigning actual point values of this part of the grade. The reason that even one standard at a level other than Mastery drops a student to the B range for this portion of their grade is because to truly achieve an A, a student must be a master at all topics.

I have designed this course to be challenging but very doable if students engage with the resources for the course, even for students who may be nervous about math or "think" they are not good at math. The course is designed for students of vastly different mathematics experiences to do well - students that need more time to master the material are granted such time through retesting. The course is designed for students to have the opportunity to perform poorly, take it as an invitation to try harder - read more, do more problems (even ones that aren't assigned,) ask for help; students are granted such opportunities through retesting. Retesting is a tool for learning how to learn and conquering a challenging course that rewards long-term performance and discourages memorization.

The standards-based grading methodology, which involves measuring students' proficiency on well-defined course objectives, facilitates this retesting. Previous research suggests that a better understanding of essential principles is needed for grades to accurately reflect students' achievement. Providing feedback about how well a student has mastered each of the course's important topic allows for a more nuanced conversation with students about where they are strong and where they can make plans to improve their knowledge.

Unfortunately, I'm not sure I effectively communicated the benefits of such a grading scheme. There were

many students that appreciated the incentive to stay on top of the material and the repetitive nature of the course, but there were several students that found that it felt unfair and I had a hard time convincing those students otherwise. Students were immediately displeased with the nature of the evaluations in that they were unexpected and several students felt that the system disadvantaged them because of the stringent requirement to get an A on that portion of their grade; I think I lost a lot of the students in the first few classes as it was perceived that I had aimed the evaluation at too high of a level.

This issue was more strongly based in feeling than in fact. The truth is that students were doing remarkably well. Students averaged 85% on that section of their grade, they were responsible for and succeeded in completing complex statistics problems in their own language. Allowing students to succeed at their own pace and take poor performances as an invitation to succeed was an academic success; students overwhelmingly performed better on subsequent tries indicating that students had a increased understanding of the material.

I hope that much of this discontent comes from this increased demand for quality work, and the need for a more comprehensive and nuanced conversation about why I engage this type of pedagogy, which research suggests significantly improves students' learning outcomes, and my misplaced extrapolation of the desire for challenging coursework from my previous semester of 300-level electives. The knowledge of the previous workload and my first semester's experience created a gap in my expectations and theirs. 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. I'm happy to have a better understanding of student expectations.

Toward the end of the semester I created a draft of the syllabus for next semester taking much of their criticisms into account. This included additional explanation, with reference to pedagogical research; vastly different scheduling and language to better portray the grading scheme that many of them took exception to. I think my inflated expectation due to my first semester experience lead me to, perhaps, expect too much. I expected push back on that but I'm quite surprised to see how often students used the word "condescending" in evaluations. I try very hard to be constructive and nurturing with my criticism and I mimic this behavior by taking constructive criticism very seriously myself by changing things throughout the semester to better serve the students.

I was troubled to read that this didn't come across to some students - I never thought that my responses, which were intended to explain my choices, would come across as dismissive; I made massive changes to my syllabus based on very excellent and helpful student feedback. I take all feedback seriously and very often take constructive criticism as an invitation to make changes for the better. I think that next semester will be significantly improved with my experience and the feedback provided this semester.

Next semester I will take more care in explaining the benefits of this system as well as the reasoning and research supporting it. This is particularly important because it will likely be the first time most students are exposed to standards based learning and also the first time students have seen retesting that only helped their grade. To take the first steps in doing so, I created a new syllabus that more deeply explains this methodology and the reasons for it and asked for constructive criticism regarding the new, increased explanation and reasoning so that it might be clearer next semester.

Something I learned through the experience of teaching a large, freshman and sophomore filled course is understanding Colgate students and my interaction with them better. Being a first generation student, I don't think I had the same pressure that some of the students here face; it was amazing that I made it there at all. This pressure, that had not occurred to me, caused many students a lot of stress as they felt that they had to be perfect.

I didn't have to be perfect and the welcoming, nurturing and light-hearted professors that guided me through my education really helped me grow through light-hearted and very constructive criticism of my

work; this is something I've taken into my own approach in the classroom. I often point out when I make mistakes indicating that I too am fallible to make students understand that making mistakes is part of learning and that we're all here to learn and improve, myself included. This allows for that conversation of quality to feel less condemning of their effort and more like an invitation to work toward improvement together. This allows for nuanced discussion about our definitions of "doing well in class," and allows students to feel on equal ground.

This chasm was difficult to work around because it was hard for me to understand and communicate effectively and on a personal level with all of the students based on the size of the class. I think this is largely responsible for the how dichotomized the student evaluations were. Students that I was able to connect with during office hours and have more nuanced conversations had an experience similar to that of my upper level courses and students that never made it to office hours or an outside of class tutoring hour may not have fully understood my intentions. Teaching this course, at this size, made me more cognizant, empathetic and understanding of the student perspective - particularly those with less exposure to me, to whom my intentions and candor might not have been clear.

I strongly believe that I just need to make a few tweaks and have a game plan for communication next semester. I care very much to be an impactful professor who cares an immense amount and leads students to a life-long learning. I am definitely growing and figuring out the culture at Colgate; state and community colleges have students who are in awe when professors demonstrate they care - students who see hard love as love. I have perhaps become accustomed to this expectation as it was very similar to my undergraduate experience. It is good to recognize, and start understanding, many Colgate students' point of view- students who expect faculty to care, where the hard love is not as welcomed. I will work hard to find a balance of rigor, demand for quality in a more verbally nurturing manner.

## Events

### Fall 2016

<b>Start Date</b>	<b>End Date</b>	<b>Event</b>
05/10/2016	05/11/2016	White Eagle Conference
09/06/2016	09/06/2016	Student Summer Research Series
09/11/2016	05/04/2016	Data Science Club Advisor
09/13/2016	09/13/2016	QPR Training
09/23/2016	09/23/2016	Grants for Science and Social Science Research Colloquium
09/28/2016	09/28/2016	Teaching with Technology Brown Bag
09/29/2016	09/29/2016	Math Department Student Research Seminar
10/04/2016	10/04/2016	LGBTQ Safe Zone Training
10/14/2016	10/14/2016	Textbook Review for Wiley Publisher
10/20/2016	10/20/2016	Shaping the Classroom to Include All Identities
10/20/2016	10/23/2016	KnockTober Data Science Hackathon - 78th place
10/24/2016	10/24/2016	HMMI Inclusive Excellence - FGen students in STEM at Colgate
11/04/2016	11/04/2016	Meeting and Dinner with NASC Speaker David Mimno
12/03/2016	12/03/2016	Putnam Exam Proctoring

### Spring 2017

<b>Start Date</b>	<b>End Date</b>	<b>Event</b>
01/23/2017	01/23/2017	Black Love, Black Art, Black Joy: Southern Womanism Sings a New Song of the South
01/25/2017	01/25/2017	HMMI Inclusive Excellence - FGen students in STEM at Colgate follow up
02/24/2017	02/24/2017	Teaching Table: Obtaining and Using Mid-Semester Course Feedback
03/02/2017	03/02/2017	Speakeasy - Has Siri Taken Over? The Roles of Artificial Intelligence Versus Humans in our Shared Future
03/21/2017	03/21/2017	Teaching Table: Bringing Queer into the Classroom: LGBTQ - Inclusive Teaching and Advising
03/23/2017	03/23/2017	Teaching Table: Handling Student Crises
04/08/2017	04/08/2017	Hudson Valley Math Conference 2017 Planning/Attendance
04/06/2017	04/09/2017	ASA DataFest17 at Vassar
04/10/2017	04/10/2017	April Visit Days Luncheon and Faculty Reception
05/04/2017	05/18/2017	Division of Natural Sciences & Mathematics Retreat Planning Committee
05/16/2017	05/17/2017	White Eagle Conference
05/22/2017	05/24/2017	Division of Natural Sciences & Mathematics Retreat
06/02/2017	06/02/2017	Bridges: Building a Supportive Community Online Training
06/07/2017	06/07/2017	Cross-Cultural Communication Training

### Fall 2017

<b>Start Date</b>	<b>End Date</b>	<b>Event</b>
08/22/2017	08/22/2017	New Faculty Orientation
09/05/2017	09/05/2017	Student Summer Research Series
09/21/2017	09/05/2017	Faculty Gathering at the Colgate Inn (CLTR)
11/03/2017	11/03/2017	Teaching Table: I Love Teaching, I Hate Grades: Rethinking the Ways We Motivate Students

## Student Outcomes

Last updated: February 6, 2017.

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 316A	Fall 2016	2	3	3	7	5	2	0	1	0	0	0	0	0	1	1
MATH 316B	Fall 2016	0	0	5	1	5	3	0	1	0	0	0	0	0	1	0
MATH 105A	Spring 2017	5	17	16	32	39	18	8	3	2	2	1	0	2	0	0
MATH 105Z	Spring 2017	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
MATH 317A	Spring 2017	0	8	6	1	4	2	0	0	0	0	0	0	2	1	0
MATH 317Z	Spring 2017	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
-	-	3.3%	13.2%	14.6%	19.3%	25.0%	11.8%	3.8%	2.4%	0.9%	0.9%	0.5%	0.5%	1.9%	1.4%	0.5%

## Student Feedback

**Last updated: May 29, 2017.**

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 3 different courses:

- MATH 105: Introduction to 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

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 Difficulty/Workload," "Effectiveness at Conveying Course Material," "Grading/Evaluation," "Student Self-Rated Learning" and "Teacher-Student Interaction and Rapport." A standard 5-point scale is used as a measurement system (5 = best) and these ratings are provided in the table below.

Course	Semester	"Difficulty"	"Effectiveness"	"Grading"	"Learning"	"Rapport"
MATH 105A	Spring 2017	4.21/5	3.66/5	3.43/5	3.44/5	3.79/5
MATH 317A	Spring 2017	4.03/5	3.59/5	4.12/5	3.65/5	4.10/5
MATH 316A	Fall 2016	4.15/5	4.32/5	4.17/5	4.24/5	4.61/5
MATH 316B	Fall 2016	4.30/5	4.24/5	4.67/5	4.29/5	4.70/5

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."

### MA 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.
- o 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.
- o 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.
- 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 students 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 an 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 not 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 unecessary 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.
- o 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
- o 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.
- o 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.
- o 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.

o 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.

o 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.

○ 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.

○ 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?!

o 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.

o 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.
- o 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.
- o 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.
- o 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.
- o 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.
- o 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 me develop knowledge in statistics 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.
- o 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.
- o 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.
- o 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 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.
- o 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.
- o 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.
- o 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.
- o 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 that 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.
- o 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.
  - o 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.
  - o 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 wa 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.
  - o 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.
- o 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.
- o 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.
- o 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.
- o 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.
- o 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.

o 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.

o 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.

o 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.

o 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.
- o 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.
- o 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.
- o 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.
- o 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.
- o 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.

o 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 then 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 course 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.
- 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 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 trying 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, it's 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.
  - o 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.
  - o 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.

o 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 doing 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.

○ 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.

○ 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.
- o 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.
- o 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
- o 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 distain.
- o 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.
- o 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.
- o Student 119
  - **Reason:** Core or Areas of Inquiry (distribution) requirement; Interest in the course material  
Additional 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.
- o 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 cortious and thourough but at times was bisibally overwhelmed and frustrated with the class.

o 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.

o 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.

## MATH 316: Probability

### Fall 2016: Section A

- o 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 a 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.
- o 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.
- o 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.
- 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 to 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.

o 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

o 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.

o 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.

o 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.

- 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.
- Student 24
  - 
  - **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 2016: Section B

- 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.
- 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. I 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.

## MA 317: Mathematical Statistics

- 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.
- 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:** I've 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 aren't 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.
- o 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.
- o Student 9
  - **Reason:** Elective within major or minor
- o 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 learned 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.

○ 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  $\theta$  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.