Teaching Portfolio Introduction

Melanie Butler

This teaching portfolio was designed as a hard copy. There are some pages that are unavailable electronically. Please contact me if you would like to see a more complete portfolio.

In my teaching portfolio, I have tried to give an idea of what it is like to be my student. The first page in each chapter contains a discussion of how the materials following were used. Also, there are often comments on the effectiveness of the materials and how they might be improved.

I have tried to be complete in this portfolio. If you would like any more information, please feel free to contact me (`hancock@math.temple.edu`). You can also find this material and class websites that contain more detailed information for many classes that I have taught on my website: `www.math.temple.edu/~hancock`.

Contents

Chapter 1

First Day of Class

1.1 Discussion of syllabi and other material

In the syllabi that I have included, the course text, sections covered, etc. are not present because the mathematics department also has syllabi for the courses listing this general information. The students are given both the department syllabus and my personal syllabus on the first day of class.

Page 4: The first syllabus in this section is from College Math. This class is a course for non-science majors exploring probability, linear functions, and exponential functions. I often give students two copies of a syllabus and ask them to sign and return one copy. I believe that this requirement encourages the students to take the class policies seriously and helps prevent problems later in the course.

Pages 5-7: The second syllabus is from a differential and integral calculus course. It was in this course that I used e-mail reports and the derivative letter project that I mention in my teaching statement. More information on these assignments can also be found in Chapter 2 or on my website. I taught two classes during the same semester, but due to different class sizes and class lengths, I decided to structure the two courses differently. The syllabi for both classes can be found on my website.

Pages 8-9: Next I have included samples of other types of information that I make available to students on the first day of a class. I also have similar information available on the class website.

Page 10: Finally, in this section is a student information sheet that I ask the students to fill out on the first day of class. This sheet allows me to begin to get to know my students and to learn about their attitudes toward mathematics. It also gives students the opportunity to discuss any problems that they may have that semester.

1.2 College Math syllabus

Available in paper version only. Please contact me if you would like a copy.

1.3 Differential and Integral Calculus syllabus

Math 77 Spring 2003 Sections 3 and 4 MTHF 1:40-2:30 Barton 402
E-mail: hancock@math.temple.edu Office phone: 215-204-1655
Instructor: Melanie Butler Office: 509 Wachman Hall
Office Hours: TH 11:00 - 1:00 and by appointment
Class website: www.math.temple.edu/ hancock/math77sections3and4spring2003

PLEASE NOTE THE FOLLOWING DATES:
Midterm - Friday, March 7 in class
Final - Tuesday, May 13 11:00 - 1:00

Below is the course syllabus. Please see the class website for important links on the following:
Assignments and Due Dates
Calculus on the Web (COW)
Suggested problems from text
Details on E-mail Reports
Hints on reading your math text

General Course Information:

• **Course requirements:** You must have the following four things: 1: the text: Applied Calculus by Hughes-Hallet, et al., second edition 2: a scientific calculator that is NOT a graphing calculator 3: full, blank sheets of paper for in-class work, and 4: an e-mail account which you check regularly
Please have all of these things by the second week of class.

• **Course content:** We will cover the following sections of the text:
Chapter 1 sections 1-10,
Chapter 2 sections 1-5,
Chapter 3 sections 1-5,
Chapter 4 sections 1-4,
Chapter 5 sections 1-5,
Chapter 6 section 1,
Chapter 7 sections 1-4.
While ability to perform the problems is expected, there will be an emphasis on understanding the concepts. For this reason, many aspects of the class will involve writing mathematics.

• **Prerequisites:** You are expected to have a solid foundation in geometry, algebra, and trigonometry. If you feel that you need to review any concepts, please see me for some materials.

• **Technology:** It is very important to have an understanding of the technology that is available. We will be using computers for class communication, for homework, and for projects. You will be expected to supply me with an e-mail address by the second week of class. You are then responsible for any class e-mails that I send. Also, there is a web-site that lists all of the class information which you are expected to check. You are welcome to use a graphing calculator outside of class. In class, however, no graphing calculators will be allowed; on exams and on in-class projects I wish to test your ability to

do problems, not your calculator's. For this reason, you must have a scientific calculator that is NOT a graphing calculator for use on tests and in-class projects.

• **Class Structure:** I do not wish to spend class time copying things from the book onto the board. For this reason, I will lecture very little. Instead, we will spend class time working on problems and in-class projects. This method, however, requires that the students read and work on the assigned sections in the text before coming to class. Whenever sections of the text are assigned for reading, the students will be expected to e-mail me a report on those sections (see link above and more information below). The first 15 minutes of class will be a short lecture and the remaining time will be spent on in-class projects.

• **In-class projects:** We will be working on in-class projects to provide a more thorough understanding of material than pure lecture would provide. These projects will also allow the class to be more interactive. Occasionally, students may be asked to finish a project at home. In-class projects will be graded on effort and evidence of preparation more than on correctness. I will always be available to answer questions during these projects.

• **E-mail reports:** If the students are given a reading assignment, then the day before this assignment is due, the students must have e-mailed me a report. There are three options for what a report may contain: a synopses of the covered material, an explanation of questions the student has on the material, or a re-writing of the material. There should be about one paragraph per section of reading assigned. The subject line of the e-mail should contain the student's name, section, and the sections of the text that the student is reporting on. Frequently, I will reply to the e-mails.

Grading:

• **Tests:** There will be a 50 minute midterm and a two hour final. The midterm will be on Friday, March 7 during recitation. The final exam date will be announced (but it will be during exam week). There are no make-up tests unless there is an extreme medical emergency and you have a doctor's note. The test material is based on in-class examples, in-class projects, suggested problems from the text, and homework problems.

• **Homework:** You will be assigned homework from Calculus on the Web approximately every one-two weeks. There is a lot of explanation on the COW website on how to use COW. If you have further questions, please see me. There is a link to the COW website on the class website. Two homework grades will be dropped. There will be due dates for the homework and no late homework will be accepted. I will also suggest homework problems from the text, but these will not be collected.

• **Participation:** The participation portion of the grade will be based on attendance, alertness during class, attempting problems at the board, effort on in-class projects, and courtesy to other students and me. You are expected to turn off (and not use during class) cell phones, beepers, etc. Disrupting class will detract from your participation grade.

• **E-mail reports:** The e-mail reports will be graded on a five point scale. The most important aspect of the e-mails is that the student shows that he or she has read the material and that he or she has spent time organizing their thoughts on the material into a coherent e-mail. Please see the link on the class website for more information on the grading of the e-mails.

• **Grade Breakdown:**

Mid-term: 20%
Final: 25%
Homework: 15%
Participation: 20%
E-mail reports: 20%

Grade cutoffs are 90% (for an A), 80% (B), 70% (C), and 60% (D). A plus sign is added for averages in the interval [9, 9.99?] and a minus sign for averages in the interval [0, 0.99?]. The math department only allows the grade of I for a student who could not take the final exam due to medical reasons, has an official note to verify the fact, and has completed all other material.

• **Appealing a grade:** If you believe that a mistake has been made in grading a test or other assignment, please write a letter explaining the situation and what you believe should be done. Also, please attach the original, unaltered graded test or assignment. Please give me these materials the next class after the test or assignment has been returned. No late appeals will be accepted.

1.4 Hand-out on reading a math text

Reading a math text:

Reading your math text book is unlike reading your text books from other classes. I have several suggestion for reading the assigned sections of the text:

1) Take your time. You should read line by line, taking care that you understand each line that you have read. It may take you several hours to read just a few pages and that is normal. You also may need to frequently stop and work through the examples.

2) Do not get discouraged if you do not understand what you are reading right away. It can take time to absorb the material. You may want to read through once and then go back through the reading again to get a better understanding.

3) Do the suggested problems from the text. These will help you assess your understanding of the material and also help your performance on exams.

4) It may be good for you to take notes and/or highlight while you are reading.

1.5 Hand-out on calculus resources on the web

Calculus Resources on the Web:
Limits: The following website does not have the best graphics and it's not interactive, but I think that it gives a good explanation of limits: www.coolmath.com/limit1.htm .

For limits you may also want to look at www.ima.umn.edu/ arnold/graphics-j.html. Here the eighth picture has to do with limits.
Tangents and Derivatives: Again, Douglas Arnold's site

www.ima.umn.edu/ arnold/graphics-j.html

offers some great graphics that help to explain where derivatives come from. Here you may want to look at the fifth and sixth pictures.
Constructing Equations: When doing word problems in calculus class, many students often find setting up the problems to be the most difficult aspect of the problem. The following web site helps students to visualize what is going on in various situations that often come up in optimization problems. This site then prompts the students to construct the necessary equations to start an optimization problem. I think that this site would really help students before they got to optimization in class. To check this out click here . Scroll down to the bottom of the page and you will see several animations that you can chose from. The Java applets are particularly fun. This site is part of the Demos with Positive Impact project. If you are interested in learning more about this project, you may want to contact Dr. Hill at hill@math.temple.edu.
Related Rates: Again I recommend the Demos with Positive Impact site. This time, try the Visualization for Related Rates site.

I would like to thank Dr. Zitarelli for giving me the opportunity to explore the many computing options for calculus and I would also like to thank Dr. Hill for taking the time to meet with me and give me many good ideas!

1.6 Student information sheet

Available in paper version only. Please contact me if you would like a copy.

Chapter 2

Study Time

2.1 Discussion of assignments and projects

Pages 12-15: I used e-mail reports as homework assignments in a differential and integral calculus course. I believe that this project helped to foster an intimate feeling in this class of over 50 students. The students were able to express themselves and to ask questions about the material in a very non-intimidating environment. The e-mail reports also allowed me to offer more one-on-one help to students. I would like to incorporate this project into other courses in the future. I have included a sheet of sample e-mail reports.

Page 16: The derivative letter project was also used in a differential and integral calculus course to replace writing e-mail reports for sections of the text that were very computational. I found that students enjoyed this project and they thought very carefully about derivatives before completing the project. Giving the students a chance to rewrite the letter allowed them to get feedback about writing in mathematics and then to improve.

Page 17: I completed a "trig notebook" when I was in high school trigonometry class and I have continued to add to it and use it as a reference over the years. I decided to use this project in a pre-calculus course. My goal was for the students to have a reference for any mathematics that we had learned in that course. I was very happy when the projects were turned in and I found that many students had exceeded my expectations with both the material that they had included and their artistic presentation.

Pages 18-22: Finally I have included in-class projects that I have used in various courses. I like to use review sheets to emphasize important techniques covered in class. In addition, I use review sheets to give students an opportunity to work with their peers while having me readily available for answering questions. I have found that allowing students to work on these hand-outs, either individually or in groups, is a great motivator and helps to build confidence.

2.2 E-mail report project

E-mail reports should be sent to me at hancock@math.temple.edu the day before any reading assignment is due. The subject line of the e-mail should contain the following and the following only: your name, your section, and the sections of the text that you are reporting on. The body of the e-mail should contain your report on what you read. The report should be well written using proper grammar, punctuation, etc. For each section that you are assigned to read, you should include one paragraph on that section in your report. Please send only one e-mail per reading assignment. You have the following three options for your report on a section:

1) You can summarize that section in your own words. If you copy from the text, you will not receive credit.

2) If you had problems understanding the text in a particular section, you can explain the questions that you have on that section.

3) If you do not like the way that a section of the text is written you may rewrite it the way that you would like to see it in a text (obviously not the whole section, just the key ideas).

So for each section of the text that you have been assigned to read you should write a paragraph doing one of the above. You can use different techniques on different sections. The e-mail reports will be graded on a scale of 0-5. Here is what I will be looking for:

For a score of 5: You use correct grammar, punctuation, etc. You use mathematical terms and you use them correctly. You write coherently, with one idea flowing into the next. Your writing is clear and easy to understand.

For a score of 4: You do the above with some minor mistakes in your use of mathematical terms. You writing is slightly unclear in parts.

For a score of 3: Your writing communicates a general idea, but is not clear enough. You make some mistakes with mathematical terms and some minor mistakes with grammar, etc.

For a score of 2: It is clear that you have read the section, but you do not write about the material in a way that is understandable. You may confuse mathematical terms and there are some mistakes with grammar, etc.

For a score of 1: It is unclear whether you read the entire section and spent time trying to understand. You do not understand many of the mathematical terms from the section. Your grammar, etc is poor.

For a score of 0: You do not e-mail me by the day before the reading assignment is due, or it is clear by your e-mail that you did not read the section and/or did not attempt to understand the material.

An example: You are given an assignment to read section 1.1 for class on Tuesday. On Monday afternoon you e-mail me. You have decided to give a synopsis of the section. The subject line looks like this: Your name, section (3 or 4), Report on: 1.1. The body of your e-mail reads:

In section 1.1, functions are discussed. A function represents how one quantity depends on another quantity. For example, you could have a function that shows how weight depends on age. You might have an equation to represent the dependence of weight on age. In this case, you would input the age and the function would give you the weight. The ages that you input would be the domain of the function and the weights that the function gives would be the range. Instead of an equation, you might

have a graph of weight versus age. If we let W stand for weight , A stand for age, and if f is the function relating age and weight, then we would use the notation: W=f(A). If we had a graph of this function, the vertical intercept would represent how much a person weighs at birth.

In this case, you would receive a grade of 5 for this report. Suppose instead that you didn't understand 1.1, so you decided to write about the questions that you had on that section. A report worth a score of 5 might read:

In section 1.1, functions are discussed. Functions are used in math to show how one quantity depends on another. For instance, ocean depth might depend on distance from shore. I don't understand, however, how you figure out what is the domain or range of a function. If I say that the ocean is 7 feet deep and the function says that the distance from shore is 14 feet, is 7 in the domain, range or both? Couldn't you also have a function where, if I say that we are 14 feet from shore, then the function says that the ocean is 7 feet deep? I also don't understand how graphs are functions. It makes sense to me to think of an equation as a function, but not a graph. If I have a graph, can I find a corresponding equation? I know that if you have an equation you can graph it (using a calculator or computer at least!). Given a graph it would be easy to find both the horizontal and vertical intercepts just be looking at the graph. If you were given an equation, you would need to use some algebra, or graph the equation.

If at any time you have questions about how to write an e-mail report, please see me (or e-mail me!). I will try to respond to your e-mail reports frequently, especially if you have questions on the section. I will also periodically let you know how you are doing on your e-mail reports.

2.3 Sample of e-mail reports

Date: Sat, 12 Apr 2003 16:05:55 -0400

From: student

To: Melanie Hancock ¡hancock@euclid.math.temple.edu¿

Subject: student Section 3 Report on: 5.5

5.5 - - The Fundamental Theorem of Calculus

The fundamental theorem of calculus proves to us that taking the integral is the opposite of taking the derivative, and vice versa. To reinforce this idea it can be thought of that just like multiplication is the opposite of division, the same goes for integration/differentiation. So if you were to find the definite integral of a derivative, you would get the function the great point minus the function of the smaller. In example one, they give a problem to find weather the investment increased or decreased, I'm not exactly sure how this is relative, because before knowing the fundamental theorem of calculus I could find the answer.

Next the section explains marginal cost and change in total cost. This basically is just another application of where this can be used and how.

Date: Sun, 13 Apr 2003 14:58:17 -0700 (PDT)

From: student

To: Melanie Hancock ¡hancock@euclid.math.temple.edu¿

Subject: student, math007 section 003, section 5.5

Section 5.5 is entitled "The Fundamental Theorem of Calculus". The beginning of this section refreshes the reader's memory on the concept that was previously covered in section 5.2. (delta t =b-a/n)

With this in mind, we can then further develop other formulas. The first subinterval can be written as so: Change in F= Rate x Time which is approximated to F'(t1)delta t. And, as you might have expected, the second subinterval is: Change in F= Rate x Time is approximated to F'(t2)delta t. Later, the book tells the reader that the definite integral of a derivative gives total change. (S b over a F'(t) dt= F(b)-F(a)) As the book continues on, it presents to us another concept, which is entitled "Marginal Cost and Change in Total Change". The book said that if C'(q) is a marginal cost functiion and C(0) is the fixed cost, Cost to increase production from a units to b units= C(b)-C(a) = S a over b C'(q)dq. So, Total variable cost to produce b units = S a over 0 C'(q)dq Therefore, Total cost of producing b units= Fixed cost + Total variable cost =C(0) + S a over b C'(q)dq

Melanie, I have an idea what's going on until it got to the Marginal Cost and Change in Total cost section. I got a bit confused. Can you please explain or go over this in class? Thank you.

---

student M077 - Sect 4 3/30/03

Reading Assignments: Chapter 5, Sections 5.1 and 5.2

Section 5.1 - Accumulated Change This section takes an alternative approach in looking at the derivative. In this section, we assume the derivative for given intervals is known and are challenged to compute the range of the sum of the result of the original equation (which is not given) by simply looking at the derivative (the dependent variable) relative the independent variable (usually time).

Estimating the "summation" of the rate of change over a defined interval involves taking the average (of an underestimate and an overestimate) of the intervals. Calculating the range of the interval based on the derivative at the starting point of the interval and multiplying it by the length of the interval to derive the underestimate for the interval. The results of each interval calculation are then summed for the intermediate intervals within the range being evaluated. The overestimate is basically the same process except deriving the value of interval based on the ending point derivative for the interval. These two techniques (underestimating and overestimating) provide a range of possible outcomes; summed and divided by 2 they provide an average estimated outcome.

By reducing the size of the intervals, we can get closer and closer approximations of under and over estimates of probable results.

Section 5.2 - The Definite Integral The goal of this section is to more precisely estimate the probable results by taking the limit to obtain the definite integral which is to say finding the sum of a function for given period to a precise degree rather than simply estimating based on a theoretical minimum, theoretical maximum and averaging the result.

This is accomplished by increasing the number of intervals. As the number of intervals is increased beyond a certain point, the result will no longer vary. Which is to say the underestimate will at some point = the overestimate. As in the calculation of the derivative at a point depending upon the degree of precision required, the number of intervals is extended to a degree sufficient to yield a consistent result. This is referred to as taking the limit of the sums of the intervals. The definite integral is the total of these individual interval sums derived by taking the limit.

Only when we have an equation of a function can we calculate the definite integral. (?) The text indicates use of a calculator needed to achieve this, but does not (up to this point) go into detail on how to achieve this.

For situations where the input is a graph or a table of values, we can only estimate the integral by taking the underestimate and overestimate and averaging them.

2.4 Derivative Letter project

Available in paper version only. Please contact me if you would like a copy.

2.5 Trig notebook project

This project will be worth 15% of your grade and is due by the final exam (you may turn it in earlier). The assignment will be graded on correctness, thoroughness, and neatness. The project is to construct a "trig. notebook" that can be used as a reference in the future.

Materials:

- 3 ring binder
- hole punch
- blank paper
- report covers
- different color pens
- ruler
- protractor (optional, but helpful)

Notebook pages

There will be specific instructions for what should go on the first five pages of the notebook. After that you are free to add pages with any information that you feel will be helpful to you in the future.

Page 1: a drawing of a right triangle and the formulas for the six trig. functions, a drawing of the unit circle and the formulas for sine and cosine, a description of radians and degree, the formulas to convert radians to degrees and vice versa

Page 2: a careful drawing of the unit circle with the following: quadrants labelled, the sign of sine and cosine in each quadrant, the following angles (given in degrees) drawn and labelled in both degrees and radians with the corresponding points labelled on the unit circle: 30, 45, 60, 90, 120, 145, 160, 180, 210, 225, 240, 270, 300, 315, 330, 360

Page 3: a careful drawing of the graphs of sine and cosine

Page 4: a careful drawing of the graph of tangent

Page 5: important trig. identities (check chapters 6 and 7 and class notes)

2.6 Group work project for College Math

Available in paper version only. Please contact me if you would like a copy.

2.7 Review sheets for Calculus 1

Review of Basics in 2.3 and 2.4

Please write true or false next to each of the following. If you think that a statement is false, please correct the "then" part of the statement.

1. If $f' > 0$ on an interval, then $f > 0$ on that interval.
2. If $f' < 0$ on an interval, then f is decreasing on that interval.
3. If $f'' < 0$ on an interval, then we can't learn anything about f.
4. If $f'' > 0$ on an interval, then f is increasing on that interval.
5. If we want to find f'', then we take the derivative of f'.
6. If we write $\frac{df}{dx}$, then we mean $f''(x)$.
7. If the units of f' are the units of y per unit of x, then the units of f'' are the units of y per unit of x.

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Chapter 3

Exam Day

3.1 Discussion of exams

Pages 24-26: I have included an exam from an introductory math course for non-science majors called College Math. For this exam, the students were provided with all necessary formulas. I have found this and similar tests to be a fair assessment of a student's understanding in this course.
Page 27: I have also included a final exam from a differential and integral calculus course. The students were forewarned that they would be asked to explain the construction of the derivative and of the integral on the final exam. I also gave the students further details in class on how to answer those questions. Overall, I was not pleased with the students' answers to these two questions. In the future I would like to ask the students to answer similar questions, but I feel that a project or homework assignment might be a better place to do so.

3.2 Exam from College Math

Available in paper version only. Please contact me if you would like a copy.

Available in paper version only. Please contact me if you would like a copy.

Available in paper version only. Please contact me if you would like a copy.

3.3 Final Exam from Differential and Integral Calculus

Math 77 Final (version 1) Each problem is worth ten points. Please use a separate sheet of paper for each problem and circle your final answers. Formulas: $d/dx(fg) = f'g+g'f$, $d/dx(f/g) = (gf' - fg')/g^2$, $d/dx(x^r) = rx^{r-1}$, $dy/dx = dy/dt\ dt/dx$

(1) Explain the construction of the derivative. A complete answer will give the limit definition of the derivative and explain where this definition comes from geometrically using the formula for the slope of a line.

(2) Explain the construction of the integral, relating the limit definition of the integral to the geometric interpretation of the integral. A complete answer will include an explanation of Riemann sums.

(3) Find the equation of the tangent line to the graph of $f(x) = \frac{x^2+1}{x^2+2x+3}$ at the point $x = 1$.

(4) In parts (a) and (b), find the derivative of the given function.

(a) $f(x) = e^{-x}(x^4 - \frac{3}{2}x + 17) + ln(3x + 1)$.

(b) $f(x) = \cos(\sin(2x)) + (\cos x)(\sin x)$.

(5) Evaluate the following:

(a) $\int_0^3 \frac{1}{((t+1)^{1/2})} dt$

(b) $\int_0^3 te^{t^2} dt$

(6) Evaluate the following:

(a) $\int \frac{\sin x}{\cos x} dx$

(b) $\int (x^2 - 6x + 5) dx$

(7) (a) Suppose $f(t)$ gives the height of a person in inches with respect to time in months. What are the units of $f'(t)$ and $f''(t)$?

(b) Suppose f(t) gives the acceleration of a car, in miles per hour squared, with respect to time, in hours. Explain what $\int_0^4 f(t)dt$ means in this situation, giving the units of the integral.

(8) Solve the following equations for x.

(a) $5ln(x + 1) = 25$

(b) $15^x = 17$

(9) Find any local maxima, local minima, inflection points, global maxima, and global minima of $f(x) = x^3 + 3x^20 - 9x + 12$ on [-2,2] if they exist.

(10) Are the following statements true or false? Please write the entire word true of false.

(a) The Fundamental Theorem of Calculus states that if $F'(t) = f(t)$, $f(t)$ is continuous, and a and b are real numbers with $a < b$, then $\int_a^b f(t)dt = F(b) - F(a)$

(b) If $f(x) > 0$ on (1,2), then $f"(x) > 0$ on (1,2).

(c) The derivative of a linear function is a constant.

(d) The indefinite integral of a nonzero linear function is a constant.

(e) If $F'(t) = f(t)$, $f(t)$ is continuous, and a and b are real numbers with $a < b$, then $\int_a^b f(t)dt = F(t) + C$, where C is any constant.

Chapter 4

End of Course

4.1 Discussion of Teaching Evaluations

I have included information from all teaching evaluations that I have received. If courses that I have taught do not appear in the chart, this is because the university did not distribute evaluations for that semester or I have not yet received the completed evaluations. The university changed the evaluations recently and that is why some of the questions in the chart did not appear on more recent evaluations. Usually about a year passes between when the students fill out the evaluations and when I receive them. Thus I believe that it is important to ask the students for feedback while a course is underway.
Pages 29 I have included a selection of student comments from the university evaluations.
Pages 30-32 On the university evaluations, students are asked 18 multiple choice questions. I have included a chart containing the mean score that I received on each question in each course. Please contact me if you would like more detailed information or copies of my evaluations.
Pages 33-34: Finally in this chapter, there are two surveys that I often ask students to fill our during a course, possibly more than once. Once a few weeks of class have passed, I believe that it is important to begin assessing my performance in the class and making improvements. I will often write a specific survey for a course that allows me to gauge students' feelings about topics in that particular course. I have surveyed over a hundred students with survey 2 and used the results to fuel a discussion in a graduate student seminar at Temple University. Please feel free to contact me if you would like more information about the results of this survey.

4.2 Summary of Student Comments from Evaluations

- "The instructor helped me understand concepts that I've never understood. She was great." (College Math fall 2001)
- "Melanie Hancock is a GREAT teacher! Make sure to keep her and recruit more teachers like her!" (College Math fall 2001)
- "Melanie really made me feel like I was smart in math.... She genuinely cares for her students...." (College Math fall 2001)
- "Melanie helped me to enjoy and do well in a subject that is very difficult for me. She is very much a great teacher with a wonderful personality and presence." (College Math fall 2001)
- "...the class has a very nice atmosphere. The instructor uses time well." (College Algebra spring 2001)
- "The teacher treated everyone fairly and equally." (Differential and Integral Calculus spring 2003)
- "She is very enthusiastic." (College Algebra spring 2001)
- "I definitely liked the teacher the best! She explains everything thoroughly and is willing to always give extra help." (College Math fall 2001)
- "She put the material to us in an interesting, informative way and I feel she really helped me to understand the class." (College Math fall 2001)
- "We worked during class. The time flew." (Differential and Integral Calculus spring 2003)
- "Melanie shows interest in the material, interest in teaching, and interest in helping others progress." (College Math fall 2001)
- "This was my favorite class this semester and teacher, too." (College Math fall 2000)
- "I liked the teacher because she makes the class interesting." (College Algebra spring 2001)
- "She always makes herself available to the students and she is very understanding." (Differential and Integral Calculus spring 2003)
- "Melanie should teach Math 65. I would be so happy to have her again." (College Math fall 2001)

4.3 Numerical summary of Student Evaluations

Available in paper version only. Please contact me if you would like a copy. (Or see teaching statement link on Teaching Links page. There is a summary after my teaching philosophy.)

Available in paper version only. Please contact me if you would like a copy.

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4.4 Student survey 1

Available in paper version only. Please contact me if you would like a copy.

4.5 Student survey 2

Available in paper version only. Please contact me if you would like a copy.

Available in paper version only. Please contact me if you would like a copy.