"Every time you present a mathematical concept, do it as if it is a story. The beginning must be enticing, the plot must leave the audience wanting more and the punch line must be spectacular."

1 Overview

Teaching is the number one reason that made me choose mathematics as a profession. Yes, research is important and I enjoy doing it, but teaching has always been what kept me motivated and happy about what I do. I have been teaching in various capacities since 2002 and I can't think of myself doing anything else in my life.
From early on in my teaching career I realized that as a professor, especially in mathematics, I should not be just a knowledgeable individual, reciting definitions and theorems from the podium. I favor learning while doing, or in other words a "hands on" approach.
I have received 2 teaching awards in 2010 (Excellence) and in 2009 (Merit). I have maintained an average score of 4.3 out of 5 in all the classes I have taught so far (see evaluations) even though I have taught large classes which generally generate very poor responses. Especially at Florida Polytechnic University, when I was given full autonomy and have had some more experience, my average score is closer to 4.7 in all my classes(14).

2 Classes I taught

Throughout my career I have taught all classes in the Calculus sequence (I,II,III), Business Calculus, College Algebra, Precalculus with Trigonometry, Differential Equations, Advanced Calculus (Analysis), Mathematics for Elementary School Teachers, Linear Algebra and Statistics.
I have presented various lectures on Algebraic Topology and Topological Data Analysis and I have written an introductory booklet for the field.

2.1 University Of Florida

At UF I started as a teaching assistant in 2006 being still a graduate student, but quickly in 2008 I was given my own Calculus courses where I was both the lecturer and teaching assistant for 3 sections at least per semester. I was fortunate to learn the secrets of the trade from the experienced lecturers at UF and I participated in

many seminars about improving pedagogy and class handling. It was at that time that I won my two awards for excellence and merit at the mathematics department (the award documents are available upon request).
After I graduated in 2011, I became an adjunct-lecturer for UF and taught Business Calculus as the sole instructor (300 students). The class was really challenging since it was hard to do a "hands on" approach and personal interaction was almost impossible. Using shell notes, document cameras, clickers and as much as online tools I could, I was able to complete the class and create a template for future instructors. Most of my online materials are still being used and made it to an online course as I will explain further down.

2.2 Florida Polytechnic

I have been a course coordinator for Calculus I at Florida Polytechnic since January 2015 that I joined and I have lead the committee meetings and prepared the corresponding sylabi trying to keep a uniform class for all 12 sections. Florida Polytechnic was under the SACS accreditation process and it was my job to coordinate that effort for Calculus I. With the help of my colleagues the portfolio was completed and we were commended from internal and external members of the evaluation committee.
As a course designer I used extensively CANVAS, an online platform to create thematic sections called Modules which break the knowledge of Calculus I into coherent units. I used online homework assessment (mymathlab from Pearson) and I had the recitations at the computer lab, where all students took the quiz online. The students were encouraged to work in groups of 3 on worksheets which I had prepared, and whose video taped solutions they could access online. The results of this different approach were excellent and have now been accepted as the standard in Calculus I at Florida Polytechnic.
In Fall 2015 the university offered Differential Equations as a course for the first time and I was asked to set it up. I chose the book and wrote the learning objectives. This was a great venue for me to combine teaching with technology and research. The students were introduced to the theoretical underpinnings of Dif. Eq. but also the computer based solutions through Matlab and the codes I provided. The final projects from those courses led to 3 published papers and various posters.
In Fall 2016 I taught Statistics with the use of the statistical language SAS in a project based course and Calculus I with modules. I was still the course coordinator for Calculus I, coordinating 4 adjuncts and 3 TA's for 14 sections.

3 Technology-Online Classes

In 2008 I was asked to help facilitate as a TA a flipped Calculus class. Since then I have been using technology in the form of video-lectures, clickers, online homework and quizzes every time I can. Structuring the study of students outside class has been a target of mine and I find the methods mentioned before to be great tools towards that goal.
In 2011, I worked closely with the company ViaResponse to develop a clicker system custom made for my class. At the time I was lecturing without TA's a 300 students class, so technology was the only way I could handle the course. The system allowed me to ask questions on the spot and get real time feedback about how the students perceive the ideas presented.
In 2013, I helped create the first online class for the mathematics department in Florida as part of the program UF-Online. I helped with creating the material, which were a modified version of the lecture notes in my Business Calculus class and I videotaped the lectures.
In 2015 at Florida Polytechnic, with the help of my graduate student, Jennifer Kindle (successfully graduated Spring 2016) I created the Florida Poly Primers: Calculus, a completely online self paced course available to all freshmen at our university.
Obviously, all my written material, presentations, shell notes, quizzes and exams are written in LaTeX, even the online ones. I have compiled an 80 page question bank for problems in calculus I and I am working to create an automated quiz creator using a python script with the help of some of my students.
I have a list of online videos covering all the worksheets I have created in which I present the detailed solutions. The videos were created at the university's media lab with the help of students and can be found on my youtube channel:

https://www.youtube.com/channel/UCazLslKY63tO4JcgiLkHTzg

4 Student Mentoring

One of the most rewarding aspects of our profession is mentoring and advising students. Since my post-doc days I was very fortunate to have great students to work with and with some of them I have continued to work even when I moved to a different university. I always welcome requests for recommendation letters and I have written more than 20 in my career so far.

4.1 Graduate Research

I have had one student, Ms. Jennifer Kindle, graduate under me with a masters at Florida Polytechnic and 5 more Ph.D. students who I worked with during my stay at NC State (more information on those collaborations can be found in my research statement). Ms. Kindle, successfully defended her masters thesis (Spring 2016) and our paper: "Florida Poly Primers: Calculus" [1] was submitted to the journal Primus. Her thesis was about the creation and analysis of an online primer course which we designed and implemented in order to help students with weak mathematics background. Access to the course can be granted upon request.
With another graduate student, Ms.Langley Payton, we analyzed the "Modular" approach to calculus in our paper: "Modified calculus class" [2]. This new method clearly improved student retention and class participation. In fact both changes were statistically significant compared to other standard classes and the results will be presented in a paper which is nearing completion. Both results were welcomed by the Board of Trustees of the University which had identified a problem with the mathematics background of our incoming students and worried about the subsequent success of them in Calculus.

4.2 Undergraduate Research

Since the fall of 2015, I have had the pleasure to teach Differential Equations. I used an online free book by Lebl which had a distinct applied tone. Since all my students are either engineers or computer scientist I decided to have a 15% of their grade determined by a final project. The results were beyond amazing. One paper out of those (10 total) already has been published at the university's online journal called ICASCADE and with my student Kyle Cook, we are submitting a revamped version of his paper to the Journal of Scientific Computing. All 10 projects were presented as posters at the Regional AMS conference held at our university in January 2016.
In Summer of 2016 I successfully obtained an internal grant to work on a Health Informatics project doing basic research in the area. I was fortunate to have 4 undergraduate and 2 graduate students working with me. Besides the high value of the scientific work produced I was delighted to see the students interest and knowledge grow and mature and I was really glad I was part of that process. Two papers and one prototype (an apnea sensor) came out of this endeavor but mostly the students got the social and scientific skills needed in today's market.

5 Conclusions

With my strong mathematics background and the more than 10 year experience in teaching mathematics, I am competent in teaching courses both at the undergraduate and graduate level. I will continue to upgrade my teaching methods and I welcome suggestions and improvements from any source. I enjoy working with students and other colleagues to push the boundaries of knowledge even a little bit. I am also very eager to teach courses that I haven't tried before since I believe this is the best way to really understand a subject and make connections with other.
A complete list of the classes I taught with my evaluations at UF is available at the mathjobs site and upon request. You can find my evaluations at Florida polytechnic here and here.

References

[1] Jennifer Kindle and Thanos Gentimis, *Florida poly primers: Calculus*, PRIMUS (submitted) (2016).

[2] Langely Payton and Thanos Gentimis, *Modified calculus class*, PRIMUS (to be submitted) (2016).