Lawrence Tyler Rush Teaching Philosophy June 27, 2012

To me, a teaching philosophy is simply a set of beliefs that should evolve and/or be revised over time based on some sort of measure of students' own enjoyment of and own "knowledge-gain" after some period of teaching. To that extent, my own CURRENT beliefs follow.

- I believe in the use of humor in all aspects of teaching a course, especially during lecture.
 - First off, I'm a little bit of a funny person, and it will inevitably happen anyway. I appreciate when professors embrace their personality when teaching a class, and if I were to think about the courses that have influenced me the most over the years, invariably, the instructor was almost always "big" in his/her presentation in a manner that seemingly corresponded to whom that person was outside of class.
 - Just at a basic level, a class is simply more enjoyable when there are things at which to laugh. Even more than that, I
 feel that class material is more readily absorbed, learned, and/or understood when one has been laughing throughout a
 discussion of class topics.
- I believe in writing out lecture notes in real-time during class, giving asides from experience and personal understanding of the material as I write.
 - But isn't that just the norm for most of mathematics and sciences? Of course, however I believe in ALWAYS using an electronic medium so that the exact notes written in class can be available after class.
 To me, this method is best because some students learn during lectures by adamantly taking their own notes while others learn by sitting back and just listening during lecture. By making the actual notes written in class available afterwards, the latter type of student can learn in the way best suited for her, unlike most classes currently, all the while not affecting the way the former type of student likes to learn. And better yet, the students can make their own choice about how to best learn during lectures!
 - Good electronic mediums to me are tablet computers with a projector or a SMARTTM board. I like a tablet computer because most of the time during a lecture can be spent facing the students, thereby making lectures as though they are just simple discussions. I like a SMARTTM board or something similar because of the enhancement in presentation that it brings to a lecture. I love teaching from a whiteboard or blackboard (especially when using different colors), but just can't sacrifice the extra learning style mentioned above resulting from making the lecture notes available after class.
- I believe lectures should be interrupted by student-questions.
 - Yes, as with writing real-time lecture notes, this is pretty much standard for mathematical/science classes. However, I always like to facilitate almost any question that a student might have, aside from clarifications, especially when questions begin similar to "If what you say is true, then why...". A healthy amount of skepticism is always welcome in my classroom.
- I believe in keeping a companion website for each course.
 - Companion websites create a great resource where any information pertaining to the class can be found any time of the day, and maybe even more importantly, anywhere.
 - The site not only will be fully informative, but highly functional as well. Doesn't a background in computer science, and the availability of a seemingly endless number of MVC (http://en.wikipedia.org/wiki/Model-view-controller) or other web application frameworks behoove such a teacher to create a companion website where, for example, students can check their grades in real-time or example programs are
 - I believe in keeping the companion websites for completed courses posted and accessable to anyone in hopes that it may
 facilitate someone else's learning somewhere, let alone to provide a way for future students to evaluate my previous courses
 and methods of teaching.
- I believe in keeping a mailing list for a course.

posted AND EXECUTABLE?

- Mailing lists allow students to converse with each (answering each other's questions, posting thoughts/problems, etc.) about topics, usually homeworks in my experience, pertaining to the class. Students can certainly email me privately if they wish. However, if I feel a question in a private email is such that other students most likely do/will have it, then I will anonymize the question and ship it off, along with my response, to the mailing list for all to see and reason about it.
- Mailing lists also allow for class announcements to be spread quickly and at any time.
- Currently I think that Google Groups has the best features for mailing lists, given the search capabilities, but I am always looking for something better.

- I believe in mandatory, thought-provoking homework assignments.
 - I once was a lazy, don't-do-homework-unless-assigned type of student, in fact I was for the majority of my education. I believe that the reason for my change is largely due to a time in my life when homework assignments started becoming demanding in time, effort, and critical thinking. They began demanding more from me than my previous lackidaisical attitude could produce. This is one thing that I would like to do for all my students, let alone the ones that are like I used to be.
 - Depending on what class is being taught, I like to ask questions on homework assignments the almost certainly requires that students get together in class to discuss and find solutions to the homework problems. Some of the classes in which I have learned the most, and gained a greater understanding of the material have come from discussions of homeworks with other students. So for some classes, I encourage collaboration, and may even demand it.
 - I don't mind students finding solutions from other sources. They have hopefully already thought about it for some time, have come to multiple dead-ends, and would now like to know and fully understand someone else's solution. I will of course demand that students learn and comprehend any solution they find as well as require citation.
- I believe in Wikipedia.
 - That's correct, I said it. I believe Wikipedia to be a wonderful source of information and easy to use.
 - I believe it to be quite trustworthy in my experience. However my exposure is deeply founded in searches of mathematical or scientific topics, so I can understand if maybe other subjects that require less of a logical consistency can be more easily tainted by Wikipedia-evil-doers.
- I believe in asking rather hard questions on exams for extra credit. This hopefully encourages, but does not require, the use of critical thinking under pressure in my classes.
- I believe in helping students when they are confused by asking them questions.
 - In my experience, only asking questions of students and peers when they have a problem, hinting at the direction that they should go by doing so, always seems to be a great help to the student. I really haven't quite put my finger on the reason that this method seems to work so well (as indicated by students/peers of mine) compared to just telling a student how something should be done, but it just does.
- I believe in responding promptly to emails.
 - Many professors from my past seem to not to reply to student emails outside of weekdays or even working hours. I intend
 to not take this rediculous stance in my own methods of teaching.
 - Similarly, some professors seem to be quite unavailable outside of class or office hours. I also intend to not put any other work ahead of any student needs. It's always better to drop some work to help out a student and lose some sleep, then to let that student go possibly in a state of confusion.
- I believe that anyone caught cheating should be heavily penalized in addition to being reported to proper administration.
 - Students should receive a negative grade for the exam/homework/project/whatever on which they cheated. Yes, it will be better for my students to not do anything and receive a grade of zero than it will for my students to get caught cheating.
- I believe in having my students take surveys at the end of a course, where they can suggest ways that they believe the course can be improved.

- I believe in incorporating programming into my courses wherever it can be used to facilitate understanding of class material.
 - It would be great if I could give full programming assignments wherever it facilitates learning the material, but obviously not every class, independent of whether or not it is a computer science course, would have the background for that pipedream. However, if I think that a programming assignment would greatly benefit students at certain points in a course, then I don't mind writing the majority of a program, even if the only thing that I would require of the students would be to fidgit around with some parameters of a program I made, and report their findings.
 - Aren't you just trying to push students into the field of computer science by doing this? I am certainly not! Just as I feel that critical thinking is a great tool in all walks of life, let alone the classes (careers) that students of mine will most likely go on to take (lead), and thusly incorporate critical thinking and problem solving into my assignments, I feel it necessary to use programming in my classes, as I envision it, or at least the understanding developed from its use, as an important tool in life. For example, even outside of the mathematics/sciences realm, people who can use something as seemingly as simple as a highly functional spreadsheet application advance quickly in their careers, from my experience.
- I believe in giving some due-date slack in each of my classes.
 - I understand that things can happen from time to time, and I would like give some slack to students just in case something
 pops up unexpectedly.
 - A former professor of mine had a late penalty on assignments of $3n^3$ percent off of the assignment for being n days late. I'll adopt an expansion of this method using one of $2n^2$, $3n^2$, $2n^3$, $3n^3$ as penalties for each class, using the steeper functions for the lower level classes, and less steep ones for the higher levels.

Finally and maybe most importantly, I believe that no belief listed here, save for this and only this one, is safe from modification or removal if it becomes apparent that students' learning is hindered by the belief.