

Students learn by actively engaging in their coursework so it's my job to get students involved. This starts by just talking to students before, during and after class. As one student put it, "[Bob's] laid back demeanor encourages and welcomes questions...and [he] seemed to fully empathize with student's difficulty with the material". In the classroom I use different techniques to promote active learning. In smaller classes, I will use short group work sessions to promote student discussion of new topics. This has been particularly effective when groups pair students with different skill sets who then benefit from hearing each others thoughts and advice. In larger format lectures, in class group work becomes impractical, but I've found that group homework assignments can be a very effective tool. The students come to enjoy working together, and have appreciated the increased feedback that comes from grading fewer assignments. All classes, particularly large ones, benefit from utilizing classroom technology. I used 'clicker' technology to get students involved in discussion of new and abstract topics in a large linear algebra course. Using software to make visualizations and to do 'experiments', like getting students to explore the parameter space of an ODE, are excellent tools for promoting student involvement in the lecture. An essential part of my teaching method, in all formats, is to ask questions. Leading questions motivate new topics organically, and I intentionally introduce problems where old methods fail to generate conversation. I try to show students that theorems are not created in a vacuum, but as a natural consequence of trying to solve new problems. My goal is for the students to become an integral part of the lecture and in so doing contribute to their communal education.

I motivate through connections. I want students to understand that their mathematics course work is interrelated and not separate from the real world. As a graduate student teaching pre-calculus courses, my examples were drawn from my interest in physics. Some students liked this, but many did not respond well. Now as part of my course preparation I use the students majors and interests to inform examples. In one PDE course for engineers I polled students in the first week to discover their interests; I used their responses to select the appropriate physical context in which to derive PDEs and I tailored homework and examples to their interests. For math students, I make interrelating courses and different mathematical theories a component of every course I teach. Relating the structures of phase space in differential equations back to linear algebra, computing solitary waves and fronts in PDE as homoclinic and hetroclinic orbits in the phase space of a reduced ordinary differential equation, and introducing (finite) Fourier series as a least squares/orthogonal projection problem are some of my favorite examples.

There also needs to be a forward looking component in connecting ideas. Whenever possible, I use my own research to demonstrate the utility of coursework in real problems and inform the development of mathematical theorems and techniques. The last few days of my courses are usually advertisements for what can be done next and why my students are prepared to succeed in those areas. As one student wrote in their evaluation of the course, "I had never had any exposure to complex analysis beforehand and the beauty and usefulness of

the material made me think again about taking more advanced mathematics courses later on...this class got me more seriously interested in math.”

Mentoring and teaching outside the classroom. Working with and mentoring undergraduate and graduate students outside the classroom is an important aspect of university life right at the intersection of research and education. I have advised undergraduate research projects in the past; one in which the students explored different graph theoretic models of infectious disease. I am very interested in exploring opportunities for undergraduate research in my own area of expertise; there are plenty of accessible and interesting problems for undergraduates in random matrix theory as well as nonlinear waves. Undergraduate research is a great opportunity to expose students to real world research and to encourage students to continue on to graduate study.

As a postdoc, I have had the opportunity to work closely with a group of graduate students at the University of Arizona. For several semesters I have organized and run research working groups with these students. These working groups have led to continuing mentorship and fruitful research projects with two graduate students whose dissertation projects sprang out of the work we started in the working groups.

Teaching Effectiveness. I’ve had the opportunity to teach many different courses at different institutions and in classes with very different expectations and levels of academic maturity, and I’ve succeeded in adapting to the various needs of my students. I enjoy teaching both at the introductory level in service courses and at the advanced level working with graduate students; I am equally comfortable in front of a 10 graduate student topic course or a 200 STEM student service course. In the more than a dozen courses I’ve taught at the University of Arizona my teaching effectiveness evaluations averaged 4.5 (0-5 scale) and, as a three year postdoc at the University of Michigan, my evaluations placed me in the top 20% of instructors university wide, the highest echelon measured in these reports, with median scores on the “teaching excellence” question ranging from 4.75-4.95 (0-5 scale).

Student Assessment and Feedback

Below is a summary of my performance on standardized course evaluations as judged by the enrolled students who volunteered to anonymously take course surveys at both the University of Michigan and at the University of Arizona. In each semester at Michigan my scores placed me in the top quarter of all professors university wide.

I. University of Michigan (2009-2012).

Q: Overall the instructor was an excellent teacher. (0-5 scale)

Course (chronological)	Median Response	Comparison Group [†]
Math 156: Honors Calculus II	4.87	4.34
Math 216: Intro Diff. Eq.	4.93	3.75
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Math 217: Linear Algebra	4.90	3.68
Math 217: Linear Algebra	4.92	3.68
Math 555: Complex Analysis	4.86	4.06
Math 404: Intermediate Diff. Eq.	4.73	4.14
Math 216: Intro Diff. Eq.	4.88	3.75
Math 454: Intro to PDEs and BVPs	4.75	3.93

[†]Comparison group gives the average score of the last five years of instructors in the same course.

II. University of Arizona (2004-2009 and 2012-2016)

Rate your instructors overall effectiveness. (0-5 scale)

Course (chronological)	Mean Response	Comparison Group [‡]
Math 110: College Algebra	4.7	3.9
Math 110: College Algebra	4.7	3.9
Math 110: College Algebra	4.8	3.9
Math 110: College Algebra	4.7	3.9
Math 120R: Pre Calculus	4.8	3.9
Math 110: College Algebra	4.8	3.9
Math 124: Calculus I	4.4	3.9
Math 111: Trigonometry	4.1	3.9
Math 129: Calculus II	4.6	3.9
Math 422: Adv. Applied Math	4.4	4.1
Math 355: Differential Equations	4.2	4.1
Math 355: Differential Equations	4.3	4.1
Math 410: Applied Linear Algebra	4.1	4.1

[‡]Comparison group gives the average score of instructors in courses of similar size, area, and level of sophistication.

A nonrandom selection of student comments from class evaluations

1. Professor Jenkins is a phenomenal professor. He genuinely cares about his students and loves seeing that they understand and are interested in the material that he is teaching. Not only is he great at explaining the concepts of ordinary differential equations, but he makes a calculus class much more enjoyable than it could otherwise be. Thank you for a great semester.
2. Professor Jenkins made math seem fun which is one of the most difficult feats known to humankind. He has a great sense of humor, understands the course material inside and out and set reasonable expectations for what his students should know. Clearly enjoys teaching, and in addition was very relatable.
3. Bob is a great instructor. He explained things well and was willing to go back over topics if students were confused. I was worried about transitioning to college math, but Bob made my transition go well. He is willing to help students outside of class anytime. I'm very thankful that Bob was my instructor!!!
4. Perhaps the best professor I've had at the university. All hail Bobby J. RE-HIRE HIM YOU FOOLS.
5. Out of all the courses I have taken thus far at U-M, I have never seen an instructor know so much about his/her field as Bob. He was very helpful during office hours, and he drew on topics from other math classes to make things more clear. While I often wished that we could spend more time on certain topics, Bob was very, very knowledgeable on the subjects presented in this class and always tried his best to help his students. With that said, Bob was an awesome professor.
6. Bob was an excellent professor. So smart, helpful and always willing to go over concepts again in office hours and help with homework. One of the best professors I have had at the university, he really seemed like he cared that we were handling the material. The material was very very difficult and figuring out the proofs was almost impossible for me but Bob did his very best to help wherever he could.
7. This course was great. I had never had any exposure to complex analysis beforehand and the beauty and usefulness of the material made me think again about taking more advanced mathematics courses later on. I am not a mathematics concentrator so I guess you could say that this class got me more seriously interested in math.
8. Professor Jenkins was basically your stereotypical best math professor in the department. He was great answering student's questions and seemed to fully empathize with student's difficulty with the material. I really liked his fun=fundamental joke too.
9. Professor Jenkins clearly has excellent mastery of the subject matter. Being able to ask any math question and get not only a detailed explanation but the reasoning behind it was extremely valuable.

10. Bob is great! He presents difficult concepts very effectively. His laid back demeanor encourages and welcomes questions. Best math professor I have had at Michigan.