

Teaching Your First Course



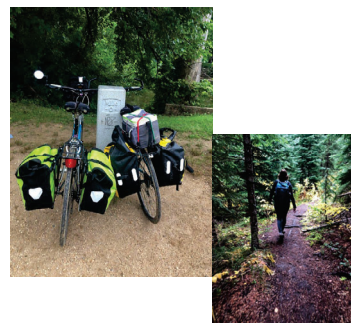
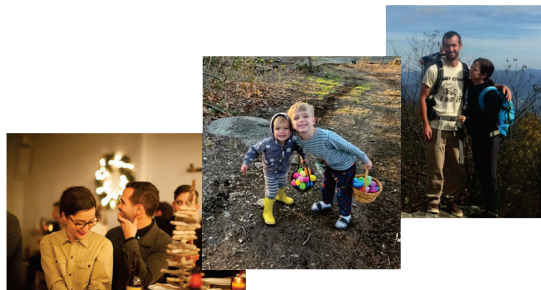
Jodi Tims
Northeastern University
Susan H. Rodger
Duke University



Jodi Tims (she/her)

• My path

- BS, Math - UPJ
- MS, PhD, Asst/Assoc Professor - Pitt
- Associate Professor - Saint Francis University
- Associate/Full Professor and Chair - Baldwin Wallace University
- Professor of the Practice and Associate Dean of Network Programs - Northeastern University

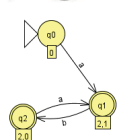


Susan Rodger



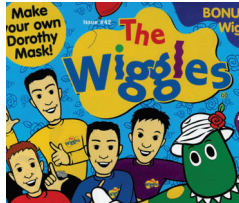
• My path

- BS Math/CS NCSU
- MS, PhD Purdue University
- Rensselaer Poly. Inst. – Assistant Professor
- Duke University – Professor of the Practice (Pop)
 - (Assistant Pop, Associate Pop, Pop)
- Research – CS Education, Visualization, Tools learning CS, integrating computing into K12
- Talk about my autism: <https://bit.ly/roddersigcse23>



Susan Rodger

- Fun - run/swim/hike, baking, cats, writing Wikipedia pages



Outline

- Transitioning to faculty teaching
- Finding resources
- Creating a syllabus
- Designing lecture
- Designing assignments
- Designing homework and exams
- Soliciting feedback
- Responding to student challenges
- Dealing with grading and plagiarism
- Recruiting TAs
- Managing TAs
- Planning your first day
- Preparing for faculty teaching



Your Experience

How many of you are close to finishing your degree?

How many of you have been a Teaching Assistant?

How many of you have taught your own course (been the instructor of record)?



Transitioning to faculty teaching

- Decide on a pedagogy (lecture, active learning, flipped)
- Plan the flow of the course and course policies
 - Will there be exams? How many? In-class vs. take home
 - Number of assignments and quizzes along with dates due/given (aim for a consistent schedule)
 - Will late submissions be allowed? Will resubmissions be permitted?
- Develop curriculum
 - Determine learning objectives: conceptual material and skills
 - Select textbook(s) and other resources to use
 - Create course materials (lectures, in-class activities, assignments, quizzes, exams)
- Manage teaching assistants and graders
 - Develop student engagement plan (office hours, lab assistance, tutoring)
 - Set criteria and deadlines for grading and oversee quality
- Handle administrative tasks
 - Order books
 - Manage student enrollment
 - Report struggling students to college
 - Determine final grades



Finding resources

- Look for courses/syllabi at similar institutions
 - Email the instructor for anything they are willing to share
- Post on SIGCSE to request materials
 - SIGCSE-members@listserv.acm.org
- Look for a book that covers the course content
 - Publishers will often send you the book and slides
- Look for “peer-instruction” slides
 - peerinstruction4cs.org/
- Look for individual assignments to integrate
 - nifty.stanford.edu
 - engage-csedu.org
 - acm.org/education/CS2013-final-report.pdf
- Use tools to check for cheating on programming assignments
 - <https://theory.stanford.edu/~aiken/moss/>



Creating a syllabus

- Copy someone’s syllabus
 - Find required statements for accommodations, late policy, sick form, academic resource center, counseling center, cheating, etc.
 - Large course? Use google forms to collect responses:
 - requesting extension, reschedule an exam, regrade request, etc
- Map out everything
 - List of topics, exam dates, list of assignments and due dates, ...
- Copy someone’s course materials
 - You are not the first person to teach this content!
 - You can make small changes to catch or reduce cheating
 - For *later* courses, use “Backward Course Design” ([link](#))
- Create a reading list for a graduate course
 - Pull from courses you took and articles you reference



Designing Lecture

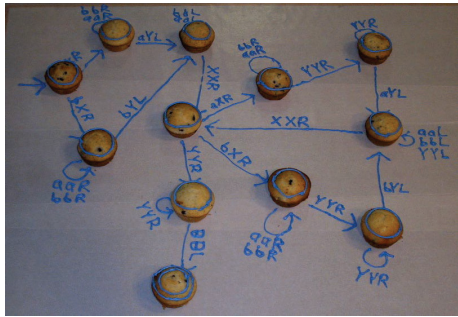
- How to engage your students
 - Don't put all your notes on your slides
 - Make a slide, then copy it and add answers to show in class
 - Delete slides with answers before putting up .pdf of lecture slides
 - Put up full notes after class, remove at end of semester
 - Ask questions to make them think, wait for an answer
 - It is tempting to just say the answer
 - Group activities - clickers, google forms
 - Go over collective answer
- Communicating what you value (e.g. class participation)
- Do different examples than are in the book
- Review previous topic, remind where the course is going



Make lecture fun! sorting



Make Lecture fun - automata theory



Turing machine out of blueberry muffins



Students build DFA with cookies and icing



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Designing assignments

- Consider low stakes, short assignments/quizzes and higher stakes, longer assignments with checkpoints
- Design questions that help students learn the material
 - Focus on fundamental material and common misunderstandings
 - Create questions that ask students to stretch, but not too much
 - Design for good students, not most experienced students
 - Consider challenge problems
 - Create questions that work for different learning styles
- Do the assignment yourself, have a TA do the assignment
 - Is it too much? Can you give them parts of it?
- Create assignments that are easy to grade
- Coordinate deadlines in common classes



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Designing exams

- Be aware of time
 - Students will take longer than you to answer questions
 - Consider how long it will take to grade each question
- Ask questions in manner similar to assignment questions
- Break complex questions into parts
- Create questions at different difficulty levels
- Make sure the questions/instructions are clear
- Have someone else take the exam prior to test day
- You can adjust grades if the overall average is lower than anticipated



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Soliciting feedback

- Strategize a way to get valuable information from your teaching evaluations
 - You may prefer to have a TA, colleague, or friend summarize them
 - Don't dismiss them - they can be biased, but there is usually some truth to be gleaned that can improve your effectiveness
- Be prepared to speak to concerns raised and feedback given
 - Students want to know their feedback is heard
- Consider providing a process for anonymous feedback throughout the course
- Take notes *during* class about feedback and questions
- Have a colleague sit in on your class and provide informal feedback



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Responding to student challenges

- Understand reporting requirements
 - First year and athlete progress reports
 - Unsatisfactory progress reports anytime
 - Honor code violations
- Learn about on-campus resources
 - Well-being, financial, and academic resources
- Understand required accommodations
 - Reach out to students with accommodations to establish protocol
 - Create a plan for accommodations and set them up early
- Be aware of progress
 - Keep overall grade spreadsheet and check every few weeks
 - Keep attendance record informally (if size of class allows)
- Reach out to struggling students early
 - Frame outreach as connecting them to resources to help them succeed
 - Provide a seamless way to request extensions



Dealing with grading and plagiarism

- Create clear articulation of what counts as cheating
- Understand student conduct policy
 - Report students – first time offense could be lighter
- Collect evidence – need a strong case
 - With strong evidence they will likely admit it
 - May have to follow through with student court
- ChatGPT complicates things...
 - Compare solutions to ChatGPT solutions
- Ask them questions about their work or give them a similar problem to solve



Recruiting TAs

- Understand how TA placements are determined in your department
- Get student recommendations from colleagues
 - Ask about student's grasp of material, level of responsibility, and personality
- Reach out to recommended students
- Make sure your TA pool is diverse
 - Students from marginalized populations may be less likely to apply and need encouragement to do so



Managing TAs

- Find or create TA training materials
- Convey the importance of meeting deadlines
- Convey the importance of respectful student interactions
- Design a plan for office hours
 - Ask TAs to fit into that plan and only modify plan very selectively
- Design and share grading deadlines before semester starts
 - Allow more time or assign less work around midterms and breaks
 - Consider scheduling grading sessions
 - Schedule time for you to finish unfinished grading
- Solicit feedback
 - Check in weekly with TAs about attendance and common questions
 - Solicit student feedback with anonymous survey or other mechanism



Planning your first day

- Practice speaking before, with tongue twisters
- Check out the room before
- Greet the class, small talk, smile
- Bring them closer to you, "can't sit in last 6 rows"
- Set expectations - "phone's off", "start and end on time"
- Acknowledge students - ask them to state their name
- Manage show-offy students - "let's chat later on that"
- Ok to say "don't know, will get back to you"
- What will you wear? Comfortable? No small stripes!



Let's say a tongue twister!

Betty Botter bought some butter
But she said the butter's bitter
If I put it in my batter, it will make my batter bitter
But a bit of better butter will make my batter better
So 'twas better Betty Botter bought a bit of better butter



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Preparing for faculty teaching

- Sit in on or TA courses that you might eventually teach
- Teach a lecture or co-teach a course
 - Consider teaching at local institutions
- Teach in a summer outreach program or winter terms
- Propose revisions to a course
- Seek out training at a Teaching and Learning Center or the Education Department/Program at your university
- Postdoc jobs with teaching or visiting faculty positions
 - Are you on the SIGCSE listserv?



Questions?

