



INTERMEDIATE ALGEBRA REDESIGN

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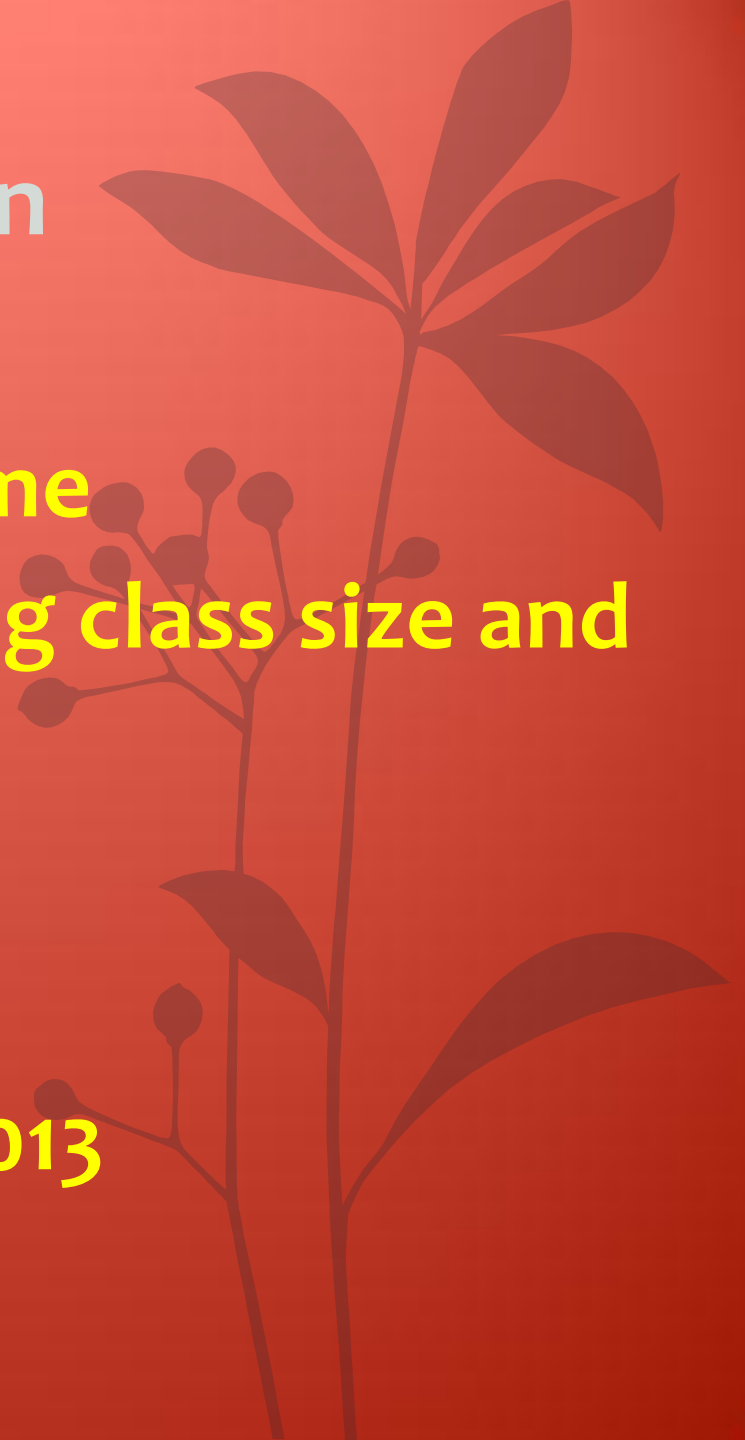
Goals & Implementation

Goals -

- Improve **learning outcome**
- Lower **costs by increasing class size and use of technology**

Implementation -

- **Pilot: Spring 2012**
- **Full: Fall 2012 & Spring 2013**



Issues & Solutions

Issues of Original Course -

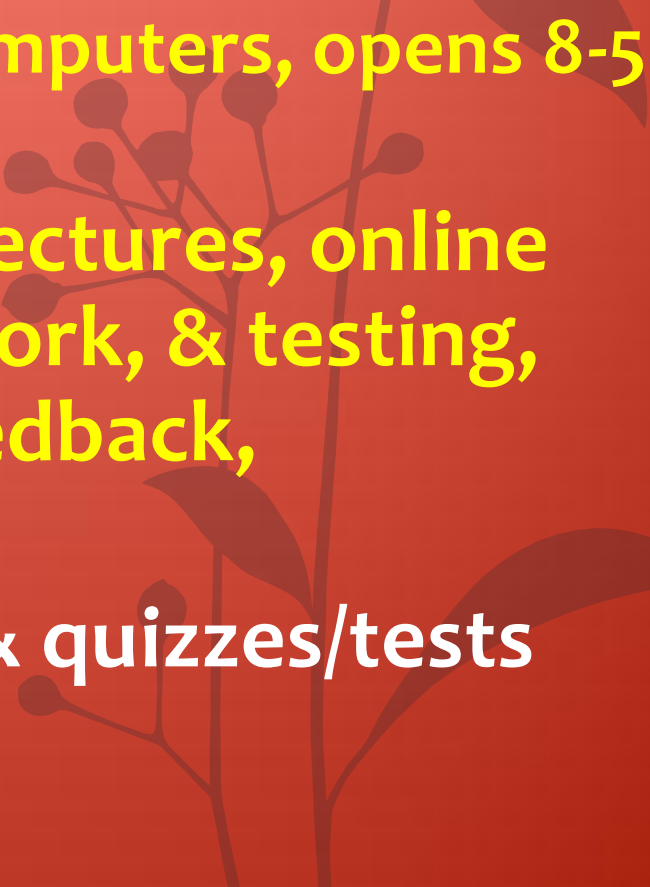
- Low success rates
- Course drift & grade inflation
- Staffing – 5GAs for 10 sections (35 ea)

Solutions by Course Redesign -

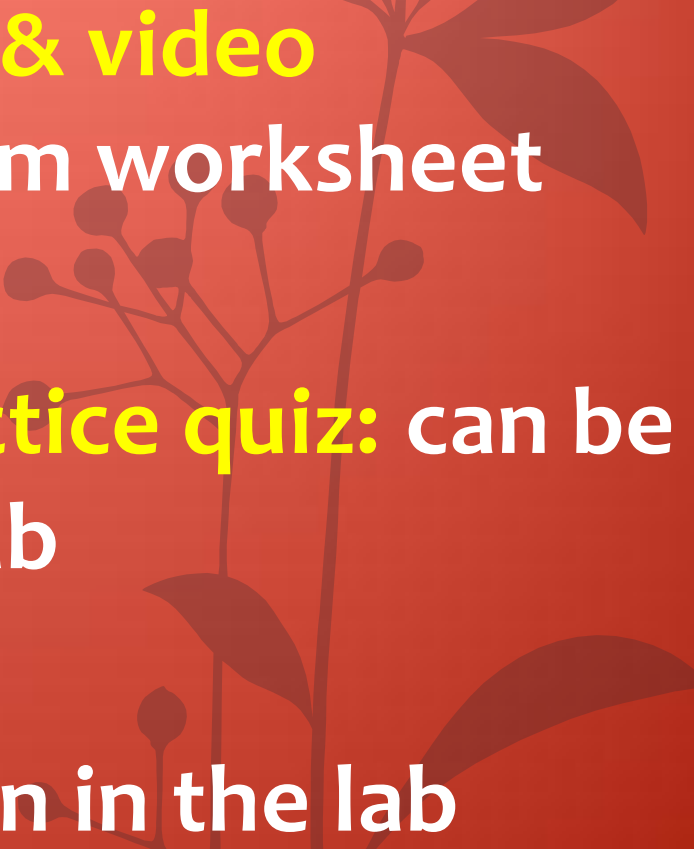
- Standardized content and assessment
- Staffing – 2.5 GAs for 5 sections (70 ea) & UGLAs in the lab

Settings for Fall 2012


8 sections, 497 students, 4GAs & UGLAs

- Computer classroom: 72 computers, opens 8-5 Monday-Friday
 - MyMathLab/tutors: video lectures, online instructional tools, homework, & testing, automated grading and feedback, individualized tutoring
 - Mastery homework (90%) & quizzes/tests (70%)
 - Allow unlimited attempts
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Weekly Lesson Structure

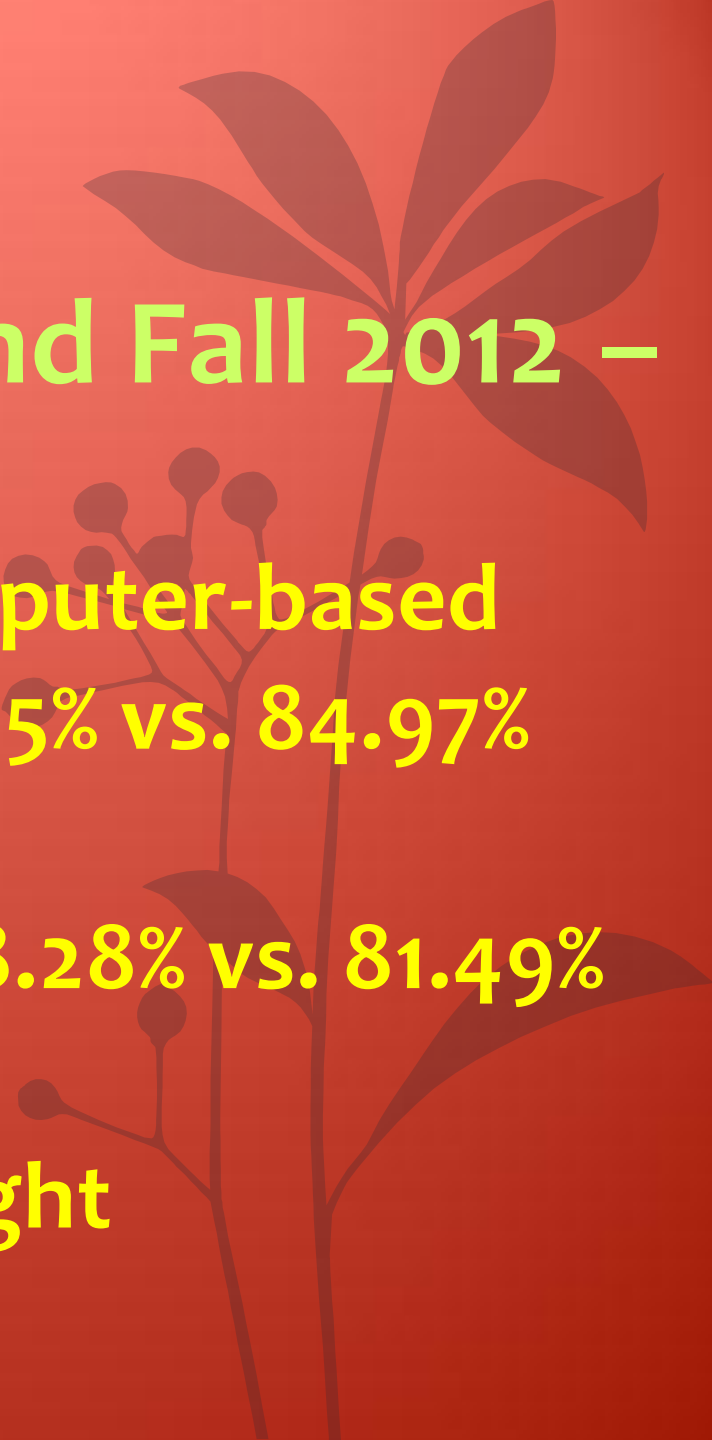
- **Study guide, worksheet, & video lectures:** turn in 5-problem worksheet
 - **Online homework & practice quiz:** can be done at home or in the lab
 - **Proctored quiz/test:** taken in the lab
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Personnel Roles


- **Coordinator:** develops course material, supervises GAs & UGLAs, monitors weekly progress, generates attendance reports, manages the lab
 - **GAs:** section instructors – collect & grade worksheets, contact students, tutor, administer quizzes & tests, report grades
 - **UGLAs:** tutor and proctor in the lab
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Learning Outcome

Between Fall 2011 and Fall 2012 –

- Final Exam Format:
paper-pencil vs. computer-based
 - Final Exam Average: **62.65% vs. 84.97%**
 - Student success rates: **68.28% vs. 81.49%**
 - Grading: **curved vs. straight**
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Impact on Student Learning

- Spent more time in doing math –
 - ☐ **Mastery homework: 90%**
 - ☐ **Mastery quizzes & tests: 70%**
 - **Reduced math anxiety – less use of Accessibility Services**
 - **Redesigned College Algebra Spring 2013 – requested by students**
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Cost Savings

- Personnel –

- ❑ Fall 2011: 11 sections, 6 instructors, 435 students
- ❑ Fall 2012: 8 sections 4 instructors, 497 students
- ❑ Reduced cost from \$118 to \$104 per student, 12% savings

- Impact on College Algebra –

- ❑ Fall 2012: 1 adjunct & 3 GA's for 6 sections
(16 in total)
- ❑ Spring 2013: 1 adjunct & 3 GA's for 9 sections
(13 in total)



Implementation Issues


a) Competency and placement issues

- **Inappropriate placement/C Policy violation**
- **Need to work closely with academic advisers and Introductory Algebra instructors**



Implementation Issues

b) Personnel issues

- **High turnover among instructors and learning assistants**
 - **Hard to schedule a training session - online training will solve the problem**
 - **Some did not follow protocols – not dressed properly, not applying proctor guideline**
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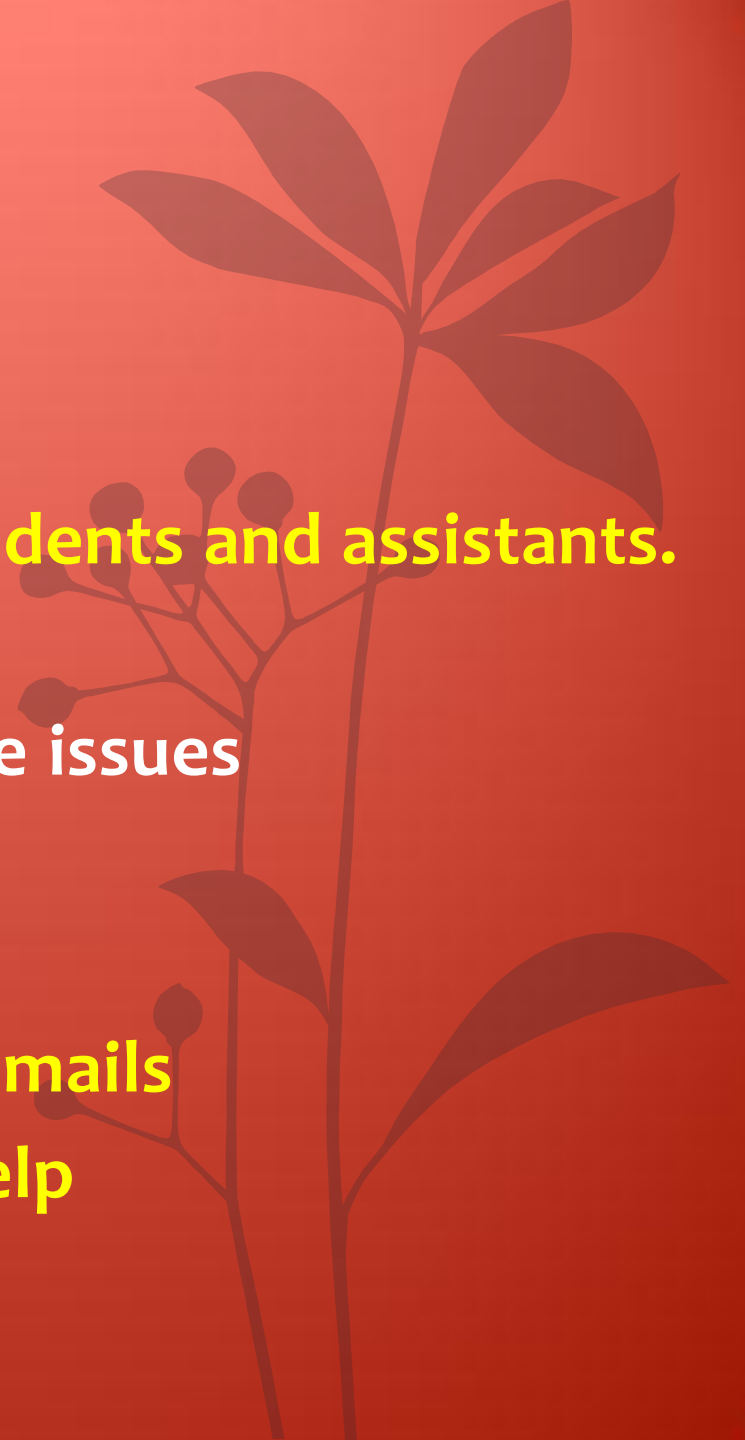
Implementation Issues

c) Multitasking classroom issue

- **Could be distracting to both students and assistants.**

d) Student personal and attitude issues

- **Rejected the redesign format**
- **Not responded to instructors' emails**
- **Waited till too late to ask for help**



Sustainability

- Lessen the **instructor shortage** problem
- **Flexible** to offer sections in short notice
- **Higher** success rate
- Offer redesigned section upon **student requests**



One GA's Comments

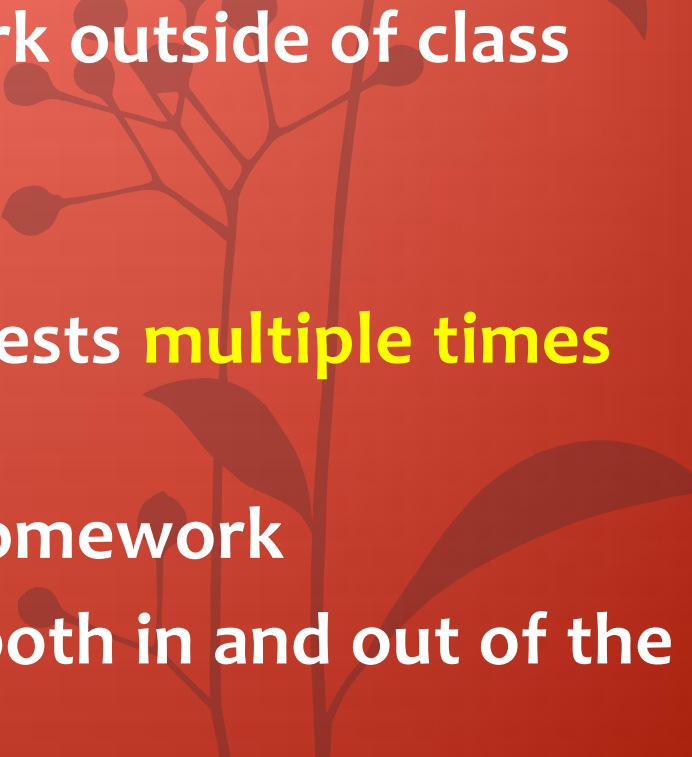
“The **hardest** thing about teaching a redesign course is **convincing** the students that the new format is better than the old format.

Last fall, I begin the semester by **explaining all the different policies** and I didn't bother to talk about the advantages of the redesign format.

This semester, I spent a good part of the first day **going over the benefits** of the redesign format”

One GA's Comments

Advantages of the redesign format:

- Spending **less time** on homework outside of class (because you can do it in class)
 - Being able to **get ahead**
 - Being able to take quizzes and tests **multiple times** (if you are ahead)
 - Having **unlimited tries** on the homework
 - Having **lots of great resources** both in and out of the classroom
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One GA's Comments

“When I told these advantages to my students, almost all of them were **excited** about the class.

I was sure to tell them that it would still be a **hard class** and that they would have to devote a lot of time into it, but the **redesign format would be able to help** them out.

As always with the redesign class, there can be a **challenge** getting to know the students who don't want to ask for help. I just tried to be as friendly as possible and **go out of my way** to get to know everyone in the class.”