

# Designing Midterms

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# Key Points for Midterms

- Test what you teach: make the exam 15-20% warm up, 60-65% core skills and clear data, 10-20% challenging. This gives a 70% average and clear feedback.
- Cognitive levels should match student ability and assignments. It is easy to write creative but impossible questions.
- Formatting the exam and answer format makes the exam clearer and the grading faster
- Time – the exam should take you no more than  $\frac{1}{4}$  to  $\frac{1}{2}$  the time available to the students.

# Open or Closed Book?

- I like to test higher cognitive levels (not rote learning) so I always give open book exams.
- I also encourage them to generate a “cheat sheet” of their own – this is a study tool and a long term reminder of the course.
- I give 2 midterms in 2<sup>nd</sup> year, so they get one side of the sheet for the first midterm, 2 sides for the second midterm and the final.
- For 4<sup>th</sup> years, we allow notes as well.

# Cognitive Levels

- 2<sup>nd</sup> year – Knowledge and application
- 3<sup>rd</sup> year – Application and synthesis
- 4<sup>th</sup> year – Synthesis and evaluation

*This point is the most important concept for accurate and robust testing.*



# Two Exams – 2<sup>nd</sup> year

- Critique each exam
  - Identify the cognitive levels
  - Where are there points that are not clear?
  - How could they be improved?
  - What is good about each?
- Note the difference in format

# Final Exams

- I like 3 hour finals
- Open book
- Some answers are formatted, some are in the exam book.
- Always ask practical questions for understanding *as well as* questions for accuracy in computation and execution.
- Reserve some points for getting the right answer at the end.