Studying for Finals
Big Picture

Face studying with a “can do” attitude.

Be realistic: Studying takes time and effort.

Understand what is expected.
Study Tips

Time management
Organize Study Materials
Review materials
Relearn and redo
Intense study
Wrap-up
## Time Management

Create a study plan with goals and objectives.

<table>
<thead>
<tr>
<th>Day</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday...</th>
<th>Friday...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Review course material</td>
<td>Review exams and homework</td>
<td>Review exams and homework</td>
<td>Improve skills</td>
</tr>
<tr>
<td>Objective</td>
<td>Gain overview of semester</td>
<td>Understand expectations</td>
<td>Understand expectations</td>
<td>Pulling it all together</td>
</tr>
<tr>
<td>Deliverables</td>
<td>Create abbreviated notes or study sheets</td>
<td>Worked out solutions</td>
<td>Worked out solutions</td>
<td>Calm mind; speed</td>
</tr>
<tr>
<td>10:00-12:00</td>
<td>Chapters 1-3</td>
<td>Exam 1: review</td>
<td>Exam 2: review</td>
<td>Chpt 1-3: review and advanced problems</td>
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<tr>
<td>1:00-3:00</td>
<td>Chapters 4-5</td>
<td>Exam 1: redo</td>
<td>Exam 2: redo</td>
<td>Chpt 4-5</td>
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<tr>
<td>3:00-5:00</td>
<td>Chapter 6-7</td>
<td>HW Chpt 1-3: review</td>
<td>HW Chpt 4-5: review</td>
<td>Chpt 6-7</td>
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<tr>
<td>6:00-8:00</td>
<td>Rewrite &amp; condense notes</td>
<td>HW Chpt 1-3: redo</td>
<td>HW Chpt 4-5: redo</td>
<td>Create a practice final</td>
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</table>
Time awareness

Break study time up into small units.
Vary studying methods (problem solving, memorization, reading, etc.)
Vary study topics.
Be aware of your level of concentration. Don’t push it. Go for a walk if you need to.
Organize Study Materials

Course notes
Exams
Homework
Text
Course Notes

This is your best guide for the topics to study.

Create an abbreviated version of your notes.

* Topic: concepts
* Definitions
* Key theorems
* Formulas
* Example problem(s)
Exams

This is your best guide for understanding the expectations of the course, i.e. the level of understanding; how to put the concepts together; difficulty of the problems.

To do

Comprehensive exams: review the questions and rework ALL of the problems. Past exams should be automatic.

Non-comprehensive exam: review the questions and find similar problems in the text. Try to determine which problems in the text were used (advanced problems, concepts, chapter reviews), and use that as a guide for determining problems on the material on the final.
Homework

Homework is assigned to achieve two goals:

(1) Provide problems that allow you to build your skills: NOT the focus for studying for a final.

(2) Provide challenges to test your skills: FOCUS on harder problems that draw upon concepts, not just mechanics.

Common mistake: If you can do the majority of the homework, you are OK for the exam.
An additional and valuable resource.

- Conceptual explanations
- Definitions and theorems
- Examples
- Practice problems
- Advanced problems to test your understanding of the material
Review Materials

Create abbreviated notes that contain
   Key ideas and concepts
   Theorems or definitions you must know
   Example problems

Try to guess what concepts will constitute a question on the final.

Identify trouble areas.
Example of review topic (Calc I)

Topic: Definition of the derivative.

Defn: \[ f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h} \]

Examples:
Using the limit definition of the derivative, find \( f'(x) \) if \( f'(x) = \text{some function} \).

Challenges:
The function might be piecewise.
Algebra is required to cancel the “h” on the bottom.
Absolute values in functions can be tricky.

Reference location: Section 4.1; exam 1 problem
Example of review topic (Precalc)

Topic: Equation of a line.

Eqns: \[ y = mx + b \]
\[ y - y_0 = m(x - x_0) \]

Examples: Find the equation of a line perpendicular to the line through the points (1,2) and (2,4).

Challenges:
- The two points on the line may not be given.
- Other concepts may be drawn upon, including the idea of perpendicular or even trig relationships.
Relearn and Redo

Create comprehensive solution sets
Organize by topic.
Draw from Exams, notes, homework problems and advanced problems in the text.
Find one of each type.
Identify problems that you missed.

Relearn identified trouble areas.
Intense Study

Redo exams until they are automatic:
  Write out problems on clean sheets of paper.
Create your own exams using:
  advanced problems in text
  advanced problems in the notes
  old exams provided to you
  modifications of exam problems
Wrap-up

Review abbreviated notes and solution sets.
Get sufficient sleep and stay healthy.
DON’T

Cram the night before.
Assume you know the material when you only have a superficial understanding of it.
Try to be “superhuman” finals week.
Use study time unproductively.
Put your health aside to study more intensely.
Test Day

Eat breakfast and bring a quiet snack to the exam.

Know where you are going and when you need to be there.

Bring materials you are allowed to bring: pencil, calculator, cheat sheet, etc.
Test Taking Strategies

• Look over the entire test before you start
• Do the problems you know how to do FIRST
• Distribute your time on problems appropriately: move on

• Show all of your work and don’t cross out
• Read the problem carefully and do all parts
• Don’t give up on several-part questions
• Verify and check your answers