IF YOU ARE STRUGGLING TO CATCH THE WAVE IN THIS CLASS, DO NOT GIVE UP, IT IS NOT TOO LATE!! YOU NEED TO DO THE FOLLOWING!!

1) **Commit to giving this class all your effort and available time.** That is what it will take to get back in front of the wave. There are no magic answers, just hard work. DO NOT GIVE UP NOW, THERE IS PLENTY OF TIME BEFORE THE FINAL. You need to break down your study time into a series of tasks. Here are the tasks, in the recommended order.

2) **Print out all of the Rules of the Day.** Read each one and identify which concepts you do not understand. Review that material in your lecture notes and the textbook.

3) **Print out the blank**[**mechanism sheets**](http://iverson.cm.utexas.edu/courses/310M/MainPagesSp06/MechSheets.html)**. Fill in the mechanism sheets by figuring out each step as you go.** Treat it as mulitple choice, wherein each step is one of the few mechanistic elements we have learned. Always ask yourself "why" a given step occurs. When you start seeing the patterns and why each step occurs, you will begin to "catch the wave". \*\*\*NOTICE HOW THE MECHANISMS DETERMINE REGIOCHEMISTRY (Markovnikov, etc.) AND STEREOCHEMISTRY (Syn, anti, InVERSiON, etc.).\*\*\* Most students find it helpful to remember one or two key elements of EACH mechanism (cation intermediate, four- membered ring transition state, anti-periplanar transition state required, etc.)

4) [**Fill in a complete roadmap**](http://iverson.cm.utexas.edu/courses/310M/MainPagesSp06/Roadmaps.html)**. For all the reactions we have learned.**[**Use the table of reactions as a guide.**](http://iverson.cm.utexas.edu/courses/310M/Handouts/RxnSummary/RxnSummary09.pdf) Then make the roadmap again. Then again. Repeat 5 times in a row, from memory. MAKE SURE YOU UNDERSTAND THE REGIOCHEMISTRY AND STEREOCHEMISTRY ASPECTS OF EACH REACTION, THESE ARE THE KEY TO USING THEM!!! Most if not all synthesis problems involve reactions on "I-35" (alkanes-haloakanes-alkenes-vicinal dihalides-alkynes). Make sure you understand these reactions!!!!

5) **Practice writing reactions backwards (draw products and reagents first, then starting materials).** This gets you used to recognizing products of reactions, which is key to solving synthesis questions.

6) **Print out blank copies of the homeworks.**Do the homeworks without referring to your notes or roadmaps or mechanism sheets. If you need to look at your roadmap or mechanism sheet, write the roadmap down again from memory 3 more times. Do the relevant mechanism sheets. Do all the old homeworks this way.

7) As final preparation (excuse the weak pun there, get it, FINAL preparation) you should take last year's final, then check the answers on-line. This should be the last thing you do, only a couple days before your final. Identify any gaps in your knowledge then fill those by studying any topics that you missed up to this point.

8) **Get a good night's sleep before the actual final**. This is more important that a few hours of sleepy study!!!

When doing synthesis problems (enhanced edition):

1) **You must have your entire roadmap learned** so you can recite the [NIRRS parameters](http://iverson.cm.utexas.edu/courses/310M/ROTDSp06/ROTDLecture23.html) for each reagent, i.e. Nature of overall transformation ("locations" on the roadmap), the Intermediate or transition state (carbocation, anti-periplanar etc.), the Reagents and how to designate them, as well as any Regiochemistry (Markovnikov, etc.) and any appropriate Stereochemistry (syn, anti, InVERSiON, scrambled, etc).

2) **Work backwards** (learn to RECOGNIZE the appropriate reagents and starting materials by looking at the products) from the final product. DO NOT try to work forward from the starting materials. Please trust me on this.

3) **Count carbons** in the starting material(s) and product(s) to see if any carbon-carbon bonds need to be broken or made, thereby zeroing in on key steps. This will be far more important next semester, so you should get used to doing this now.

4) Pretty much all synthesis problems in OChem 1 involve traveling "north or south" on the so-called **"I-35" reactions** (alkanes SA, haloalkanes NB/SM, alkenes ATX, vicinal dihalides Waco, alkynes DFW) at least part way at some point during the synthesis. This is not a promise or a rule, just an observation.

When solving NMR spectra problems

1) Determine number and relative integrations of signals predicted for a given structure

2) Make sure the splitting pattern matches with the spectrum for each signal and

3) If the number and relative integrations as well as splitting patterns match with the spectra, compare expected chemical shifts with those of the signals in spectra.