1st & 3rd years of organic chemistry

1. Labs should be labs
   - *i.e.* wet labs, hands on, physical
   - *not* lectures, seminars, demonstrations

2. Essential techniques: “toolbox”
   - many different techniques
   - introduced in a stepwise fashion
   - chemistry that requires the technique
   - *not* technique driven
1. Problem Solving Labs

*Why? Strong students read & understand Weak students read & do*

a. Problem component
   - determine a starting material, product or investigate a mechanism
   - procedure given

b. Design an experiment
   - group develops their experimental strategy
   - individually do the experiment

c. Multi-tasking/Time management
   - *e.g.* ‘while doing the reflux set up X’
   - 3rd year - group of experiments
d. “Why” questions
   - part of a prelab or report
   - e.g. Why do you wash with brine?

2. Microscale vs. Macroscale

a. Microscale
   - may cost to setup
   - ↓ chemicals
   - ↓ solvents
   - ↓ odours

b. Mixture of both

c. 1st term: macroscale (~1g)
   - students not ready for very small amounts

d. 2nd term: a mixture or all microscale

e. 3rd year - often synthetic, usually a mixture
3. Evaluation
   a. Lab reports
   b. Products
   c. Written lab exam
   d. Practical lab exam

4. Organization - Labs
   a. Single experiments
   b. Mini 2-3 week labs

5. Organization - Lab course
   a. separation of lab and lecture course
   b. set hours for the labs
   c. 9-10 labs per 13 week term
   d. 3rd year - projects, synthesis