

## Four Year Plan-Chemistry

<u>First Year Fall</u>	<u>First Year Spring</u>
Chemical Principles I	Analytical/Inorganic
Calculus I	Calculus II
<u>Second Year Fall</u>	<u>Second Year Spring</u>
Organic Chemistry I	Biochem/Organic II
Upper level math/ Matrix Algebra	Physics II
Physics I	Research I (1)
<u>Third Year Fall</u>	<u>Third Year Spring</u>
Physical Chemistry 323	IDC
Research II (2)	Research III (2)
<u>Fourth Year Fall</u>	<u>Fall Year Spring</u>
IDC	IDC
Research IV (2)	Research V (2)
Integ lab (2)	IDC
	Integ lab (2)

## Lab Plans

Chemical Principles I- Vitamin C

Chemical Principles II- Water Analysis

Quant- Develop study to quantify something

Organic- see Moody and/or Patterson

PChem- bring back projects (three weeks)

Instrumental- develop labs to be done in future (Chem Ed) but nice if could do them

Inorganic- need synthesize what you want lab

Biochem- bring back projects, (\$50 + whatever you want to do)

Advanced Lab?- Combine Inorganic, PChem, Instrumental?

## Lab Plans in Depth

Chemical Principles I- Vitamin C lab (make two weeks again)

Chemical Principles II- Water Analysis

- Two weeks analysis
- One week posters

Prelab:

First three weeks class-decide on ions

Before Lab: Plan experiments

Refer to websites and resources

Students need to report type and number of containers

Dissolve O<sub>2</sub>, needs “fixing” chemicals

Types of analysis: Titration (dissolved O<sub>2</sub>, H<sub>2</sub>O hardness, phosphates)

Spectrometry (colormetric phosphates, nitrates, sulfates)

Electrodes (Ca<sup>2+</sup>, Na<sup>+</sup>, Cl<sup>-</sup>, F<sup>-</sup>, pH)

\*Groups of Four

Organic Lab-

Unknown ester reagent

(Rcoat, R'OH, or RCOOR')

(Qual, Spectroscopy ID)

Synthesis of an ester w/ this reagent

(Lit + Synth + Spec)

Computational Chem

Thermodynamics of Fischer Keq [sic] ← Adv Org Students are checking this!