CHEM 31
Formal Lab Report Grading Guidelines
Fall 2016

1) Appropriate Title, Name and Section Number
2) Introduction: **[1 pts]**
   I. Clear statement of objectives of report
   II. Sources of Ca^{2+}, Mg^{2+}, Cl^-, NO_3^-, and SO_4^{2-} in drinking water. Numerical rank of what constitutes soft, medium and hard water (Remember that ppm Ca^{2+} ≠ ppm $CaCO_3$)
   III. Problem with water hardness in home and industrial units.
   IV. Health & application of NO_3^- ion. Acceptable NO_3^- ion concentration in water.
3) Experimental methods: **[1.5 pts]**
   I. Description of how AAS works (should contains a basic instrument schematic)
   II. Description of standard solution preparation and sample dilution.
   III. Description of how IC works.
   IV. How did you find concentration of NO_3^- ion in your tap-water (i.e., 1 point calibration curve)?
4) Results and Discussion **[2 pts]**
   I. Concentrations of each ion (or state below limit of detection/quantification)
   II. Discussion of data quality including calibration, percent standard deviation and accuracy of water hardness unknown. Discussion of limits of one point calibration.
   III. Discussion of results of drinking water analysis
      a. Comparison of drinking water concentrations with expected values (from class measurements and/or water agency results) and/or EPA limits
      b. Compare to greater Sacramento values
5) References + meeting page limits **[0.5 pts]**
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6) Correct format & organization **[1 pts]**
7) Writing quality:
   I. Spelling + Grammar [1 pt]
   II. Connectivity between sentences/paragraphs [0.5 pts].
   III. Clarity in writing (reader doesn't have to guess meaning of sentences) [1 pt]
   IV. Accuracy in writing (descriptions of instruments, for example, accurately describe how they work) [1 pt]
   V. Writing style (descriptive but brief) [0.5 pts]
   VI. **Total: 10 pts**
   VII. **Note: Additional points can be removed if parts are improperly referenced or plagiarized.**