

## Grading Rubric for Non-Formal, Technique Experiment Reports

**Download the non-formal MS Word template on the course website.**

Heading – 5 points: Student name, unknown number(s), experiment title, section day/time (make-up information if applicable), and TA's name.

**0.5 Point deduction** for each missing or wrong piece of data.

Purpose and Pre-lab Outline – 10 points: **No table of reagents required for technique experiments as there are too many possible unknowns.**

**Full credit** – All aspects are included - title of experiment, a short purpose, in-their-own- words procedural outline. Purpose is one clear, complete sentence that tells what is going to be performed in the experiment (only aspect that should be future tense). Not wordy, not an explanation of procedure or background information. Procedure is clear and could be used in the absence of the handout, but not a direct copy of handout.

**8 – 9 Points** – Something is wrong. One or more of the following: purpose does not fit or is missing, procedure either lacks a step or two or is wordy, but still not a direct copy.

**5 – 7 Points** – More is wrong. Procedure lacks a few steps or is becoming very wordy, but still not a direct copy of the handout.

**3 – 4 Points** – Even more is wrong with procedure or becoming a direct copy of handout.

**2 Points** – Procedure is a direct copy of the handout or very close to it.

**0 Points** – Missing prelab entirely before lab begins. Give 1/10 for doing it and then returning.

Lab Technique – 5 Points: TA's use discretion and take note of behavior such as failure to use protective equipment (goggles, lab coat, or fume hood), messiness, or repeatedly asking the same question.

In Lab Entries and Observations – 5 Points:

**Full Credit** – Includes weighings, MPs, and BPs with correct units (if applicable). Observations are clearly noted along with any relevant calculations. Experiment and any work done in limited use hours dated. Organized, neat, and easy to read. Symbols and shorthand are ok (@, etc.).

**4 Points** – Missing units on BP/MPs. Masses of things still included. Somewhat unorganized.

**3 Points** – Missing some BPs, MPs, masses of items, or observations. Even more unorganized.

**2 Points** – Most data/observations left out, but still some present.

**1 Point** – Missing data and observations. Missing dates of performed experiments or MPs in limited-use hours. Completely unorganized.

**0 points** – Nothing present. Should be a rare case.

Results – 10 Points: **If unknown(s) incorrectly identified, CREDIT IS NOT TAKEN AWAY IN THIS SECTION as it is simply a result.**

**Full Credit** – All experimentally necessary results (product mass, mp/bp, percent recoveries/yields, identification(s), and characterization methods (no actual data yet)) simply restated in tabular form with appropriate column headings.

**2 Point deduction** for each missing piece of physical data, including not putting results into a table, no matter how small the table is.

Discussion – 10 Points: **2 Point deduction** for each unknown incorrectly identified; **5 Point deduction** if unknown is incorrectly identified in **alcohol, aldehyde, and ketone (AAK) report\***

**Full Credit** – *All unknowns correctly identified.* Reaction or procedure discussed using correct chemical terminology. For example, “In this lab, the melting points of two unknowns and three known compounds x, y, and z were to be determined.” All results restated or summarized and well interpreted. Spectra interpreted and discussed appropriately. Reads easily. No use of first person (I, me, etc.).

**7 – 9 Points** – One unknown incorrectly identified. Reaction or procedure very minimally or not discussed. For example, "Melting points were determined" is not adequate. Results (purity, recoveries/yields, etc.) mentioned but inadequately discussed. Results are easy to read but unnecessarily wordy. Spectra interpreted, but some interpretation is incorrect or incomplete. First person some of the time.

**4 – 6 Points** – A lot is missing. Results not completely restated/summarized with very little discussion. Some interpretation of spectra but way inadequate. First person predominates.

**2 – 3 Points** – Extremely inadequate. Very little to no discussion or interpretation of results.

**1 Point** – No post lab turned in at all.

Post-Lab Questions – 5 Points equally distributed.

Late penalty – **1 Point deduction** for each day (or part of a day) that the report is submitted past the due date.