

Chemistry 564

Objectives

- Understand the fundamentals of spectroscopic techniques
- Understand the basics of instrumentation in relation to making an experimental measurement
- Emulate, to some extent, the process by which new knowledge is generated
- Generate technical reports in a style that emulates scholarly publications
- Communicate scientific content in oral conversation
- Make connections between quantum mechanics and qualitative physical descriptions

Safety

Eye protection (goggles, or safety glasses that include side protection) and closed-toe shoes are always required in the laboratory whenever any experiments are in progress. Specific safety concerns are addressed in the individual experiment handouts.

Graded Materials

- *Online quizzes:* There are eight prelab quizzes worth 10 points each. These quizzes are due before the laboratory period on the assigned day. Your final score for each quiz is the highest score out of a maximum of three attempts.
- *Oral exams:* There are four oral exams worth 50 points each. Specific topics, details of the format, and the schedule will be discussed before each exam.
- *Written activities:* Most laboratory periods have a set of written activities that are to be submitted at the end of the period. There are a total of eight sets of these activities worth 80 points combined.
- *Evaluation:* There is a 10 point evaluation score for most lab days (90 points total). This score is affected primarily by preparation, participation, lab hygiene, and timeliness.

Point Breakdown

Online quizzes (8)	= 80 pts
Oral exams (4)	= 200 pts
Written assignments (8)	= 80 pts
Evaluation (9)	= 90 pts

Total = 450 pts

Grading Scales

- Oral exams are graded on a 50-point scale with the following cutoffs:
A: 43-50; AB: 39-42; B: 32-38; BC: 28-31; C: 20-27; D: 10-20; F: 0-10
- Using the grading scale for oral exams given above and assuming near perfect scores in the other categories, the final grades are intended to be assigned on the following scale:

<i>A</i>	>90%
<i>AB</i>	86-90%
<i>B</i>	80-86%
<i>BC</i>	76-80%
<i>C</i>	68-76%
<i>D</i>	58-68%
<i>F</i>	<58%

Schedule (★ = online individual submission, ⊕ = hard copy individual submission)

Note that a complete list of activities to do before the start of each laboratory period is given in the *Preparation* subsection of each daily checklist in the handout for the experiment.

Week	Topic	Graded Activities
9/11	NMR	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
9/18	NMR	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
9/25	NMR	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
10/2	NMR	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
10/9	NMR	Oral exam
10/16	NMR	Oral exam
10/23	Microwave	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
10/30	Microwave	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
11/6	Microwave	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
11/13	Microwave	★ Take quiz (start of lab) ⊕ Submit activities (end of lab)
11/20	<i>No Lab</i>	
11/27	Microwave	Oral exam
12/4	Microwave	Oral exam