

General Chemistry C1403x, Fall 2004

M/W 1:10-2:25 PM

Instructor: Nicholas Turro

Office 655 Chandler

Email: njt3@columbia.edu

Phone: 212 854 2175 or 212 854 3017

**All of this information is on the course home page in
courseworks: <https://courseworks.columbia.edu/>**

Chemistry C1403_2004. Recitation section schedule.

Monday *Tuesday* *Wednesday* **Friday**

10-10:50 AM(023) Heidi Parry
644 Mudd

11-11:50 AM(024) Heidi Parry
644 Mudd

1:10-2 PM(022) *Kathy Kristian*
425 Mudd

3:10-4 PM(019) **Kathy Kristian**
227 Mudd(021) *Heidi Parry*
317 Hamilton

4:10-5 PM(020) *Kathy Kristian*
307 Pupin

Ms. Heidi Parry (hap2102@columbia.edu)

Ms. Kathy Kristian (kek2108@columbia.edu)

YOU MUST BE REGISTERED for one of the six recitation sections for this course. *The purpose of the recitation section is for you to go over homework problems, ask questions, take quizzes, meet other students, organize study groups, prepare for the exams.*

No recitation section this week.

If you are not registered for one of these sections, you are not registered for this course and you will not receive a grade. Please come down to see me and the TAs at the end of class if you are not registered for one of the listed recitation sections.

This standardized national examination will not be used in computing the term grade. However, an exceptional score might decide a borderline computation in your favor.

NOTE: If you cannot take this examination during your first recitation, you can register to take it on Tuesday, September 14, at 5:30 P.M. in Room 309 Havemeyer. REGISTER IN ADVANCE in ROOM 318 Havemeyer.

EXAM SCHEDULE

Exam 1 Wednesday September 29

Exam 2 Wednesday October 27

Exam 3 Wednesday December 1

Final Exam: Scheduled by the registrar

Grade will be based on 5 hour exam equivalents. A maximum of 500 points (plus a few extra points). See syllabus for details.

There are no makeup exams. If you miss an exam, that one will be dropped. If you miss more than one exam...

Tentative coverage of Text: Oxtoby, Freeman and Block, Chemistry: Science of Change

Chapters

1. The Atomic Nature of Matter (review of stuff you had in high school).
2. Stoichiometry (how to count atoms).
3. Chemical Periodicity and the Formation of Simple Compounds (properties of matter).

Exam 1: Wednesday, September 29 (After 6 lectures).

15. Nuclear Chemistry (nuclear structure and nuclear properties).
16. Quantum Mechanics and the Hydrogen Atom (atoms as waves).
17. Many-electron Atoms and Chemical Bonding (how waves interact).

Exam 2: Wednesday, October 27 (7 lectures)

18. Molecular Orbitals and Spectroscopy(interaction of light and matter).
19. Coordination Complexes (chemistry of metals, the inorganic world).
24. From Petroleum to Pharmaceuticals (chemistry of organic molecules, the organic world).

Exam 3: Wednesday, December 1 (8 lectures)

Period before final (3 lectures)

25. Synthetic and Biological Polymers (chemistry of giant molecules and life).

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When sending Email, *please place in the Subject field:
Chemistry C1403*

Office hours for Prof. Turro: 2:30-3:30 PM M/W or by
appointment

TA office hours will be announced on the course home page.

*All queries concerning **course administration** to the
Undergraduate Office: 318 Havemeyer (located right across the
hall from 309 Havemeyer)*

Ms. Socky Lugo

Ms. Daisy Melendez

Who are you?

150 (or so) bright and eager students!

Who am I?

Professor of Chemistry

Specialist in Photochemistry and Spectroscopy

Web site: turroserver.chem.columbia.edu

BA, Wesleyan University, 1960

PhD, Caltech, 1963

Postdoc, Harvard, 1963

Professor, Columbia, 1964

Can you find Nick and Sandy Turro in this picture?



Chemistry is about matter and light, their interactions and transformations.

All of which was created by the “Big Bang” about 10 billion year ago.

As the result of the Big Bang, the atoms of the elements contained in the Periodic Table were produced.

Understanding the underlying intellectual structure of the Periodic Table is an important goal of this course.

So, let take a look at a preview of coming attractions for the course.

Review Material from Chapter One: The Atomic Nature of Matter.

Atomic Theory: How it came about from laws based on simple observations.

The Mole Concept: Counting and weighing atoms.

The Laws on which atomic theory is based:

- (1) Conservation of mass in chemical reactions.
- (2) Definite ratio of mass in pure substances
- (3) Definite volumes of combination of gases in chemical reactions
- (4) Equal volumes of gases contain equal number of particles

But first something about the Big Bang!