

**Instructor:** Dr. K. Walters  
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**Office Hours:** I have an open office policy, so stop by whenever you have a question (I will not always be in my office but will always indicate where I can be found or when I will return). My formal office hours are as follows: MWF 11:00-12:00, TR 1:00-2:00. Feel free to make an appointment for any other time. I will also schedule “online” office hours on Blackboard from time to time.

**Prerequisite:** C or better in CHE 120

**Corequisite:** CHE 121L (any section) – **Should you drop CHE 121 you will be also dropped from CHE 121L**

**Student Learning Outcomes:** After completing General Chemistry II, students will be expected to:

1. Describe properties of liquids and solids. Understand phase changes and the energy terms associated with them.
2. Discuss the factors that affect the rates of chemical reactions, determine rate laws and carry out calculations involving concentration, time data.
3. Write equations, equilibrium expressions and carry out calculations for various equilibria. Describe how changes in concentration and temperature affect equilibrium reactions.
4. Describe the process of solution formation and the properties of solutions. Calculate the concentration of solutions in a variety of units. Carry out calculations involving the colligative properties of solution.
5. Characterize acids, bases and salts by Arrhenius or Bronsted-Lowry definitions. Carry out pH calculations. Relate the properties of acids to their structure.
6. Identify and describe the properties of buffer solutions. Carry out calculations involving buffer solutions. Carry out calculations with solutions of slightly soluble salts and describe the factors that affect their solubility.
7. Discuss the relationship between enthalpy, entropy and free energy and their relationship to spontaneity. Carry out calculations of enthalpy, entropy and free energy.
8. Describe voltaic and electrolytic cells. Write equations for oxidation-reduction reactions and calculate cell potentials for these reactions.
9. Describe nuclear reactions, the uses of radioisotopes and the properties of alpha, beta and gamma radiation.

**The Student:**

1. ...should always come to lecture on time.
2. ...should stay *ahead* of the lecture in the textbook.
3. ...should come to lecture already having read the anticipated material to be covered.
4. ...should participate in lecture at every opportunity to demonstrate comprehension.
5. ...should complete all assignments on time.
6. ...should try to have at least a little fun learning chemistry.

**The Instructor:**

1. ...should always be on time for lecture and be prepared to teach.
2. ...should present material in a clear, organized manner at a speed necessary to cover all topics.
3. ...should encourage the student to think about the presented material creatively.
4. ...should assign appropriate problems to help the student master the material.
5. ...should prepare fair, thorough exams that cover the presented material.
6. ...should be absolutely impartial in all matters grading.
7. ...should have lots of fun teaching chemistry.

**Required Text:** *Chemistry: The Molecular Science*, by Moore, Stanitski and Jurs (2<sup>nd</sup> Edition), Thomson/Brooks-Cole, 2004.

**Course Content:** Selected parts of chapters 11–24.

**Web Enhanced:** This is a web enhanced course. Students meet at regularly scheduled class time and will need access to the internet to fulfill course requirements. All sections of CHE 121 are web enhanced.

- Blackboard:** The NKU Blackboard website is used extensively in this course (<http://learnonline.nku.edu>). Course announcements, grades, online supplementary materials, discussion boards, and online quizzes are available *only* through the site, and you are responsible for all posted information. Take advantage of all the presented material (especially the discussion board), and please post questions to me on the discussion boards if possible rather than sending me email. You should also utilize the NKU General Chemistry website ([http://www.nku.edu/~chemistry/general\\_chem/](http://www.nku.edu/~chemistry/general_chem/)), where you will find helpful handouts and old exams.
- Attendance:** Attendance will be taken in lecture via CPS at the beginning of class. If you arrive late you must let me know that you attended lecture at the end of the period, or **you will be counted absent**. You get 2 “free” absences (no excuse necessary) during the term. Any additional absences will result in the **deduction of 5 points** from your final course grade. If you have a legitimate reason to be absent, it can be excused if you provide me with appropriate documentation. Even if you are absent, you are responsible for all information, material, and assignments presented in lecture in addition to any material posted on Blackboard. Tardiness is also not tolerated in this class, since it is disruptive to both me and your fellow students. **For every four tardy lectures, you will receive one absence on your attendance record**. If you are tardy, please let me know at the end of class so that you are not counted absent. I go by the clock in SC 308, not your watch!
- Participation:** During lecture you will be asked to answer questions in class to determine mastery of the different topics that we are currently discussing. You will answer these multiple-choice questions via CPS, which keeps a record of your participation and right/wrong answers. I use this information to see who needs additional help on particular topics as well as who is actively participating in the lecture. Even if you are present but choose not to participate, you risk losing points from the participation portion of your course grade.
- Studying:** It has been said that students should spend 2-3 hours studying for each hour of lecture. Science courses tend to err on the high side of this estimate, so you should commit yourself to studying **7-10 hours each week** during the course. Cramming the last night or two before exams will not be sufficient to comprehend the material.
- OWL:** A requirement of this course is for you to participate in OWL (Online Web-Assisted Learning), an online homework system that gives you the opportunity to master the concepts of this course through repetition (including answering selected end of chapter problems from your textbook in OWL). You will be assigned modules to complete by posted due dates (normally midnight Thursday and Monday, see the course calendar). Failure to complete modules in a timely manner will adversely affect your homework grade. I tend to take questions directly from assigned homework problems when I write quizzes and exams, so it is in your best interest to do your best on these problems!
- Quizzes:** There will be eleven quizzes conducted online in Blackboard during the term. Each quiz is worth 10 points and will consist of five or six true/false, multiple choice, and/or short answer questions. Quizzes will be available to take from midnight on selected Thursdays to 2AM the next day as indicated on the course calendar. You will have 45 to 60 minutes to complete each quiz. Each student will not receive the same quiz, as each is a random combination of similar questions covering recent topics presented in lecture. You are expected to take your quiz individually and not work together (the NKU Honor Code applies). **There will be no makeup quizzes under any circumstance (including network problems), and missed quizzes will be assigned a zero grade**. Note further that **unannounced quizzes** may be conducted in lecture during the term. You can expect at least three or four in-class quizzes. Only your ten highest quiz scores will count towards your final course grade.
- Exams:** There will be four exams during the semester (2/2, 3/2, 4/4, and 4/25). Each student who misses any exams will be allowed **one makeup exam** during the semester **only if they contact me within 24 hours of the original exam date**. The makeup exam must normally be taken **within three weekdays** of the original test date. You will be required to provide an appropriate reason (and documentation) to qualify for a makeup exam. Note also that makeup exams are usually more challenging than the original exam.
- Final Exam:** The final exam (Wednesday 5/2, 1:00 – 3:00 PM) in this course is the American Chemical Society general chemistry standardized multiple choice exam, which is cumulative over material learned in both CHE 120 and 121. Percentile scores will be equated to a numeric grade based on your performance compared to others at NKU.
- Honor Code:** The work you will do in this course is subject to the Student Honor Code. The Honor Code is a commitment to the highest degree of ethical integrity in academic conduct, a commitment that, individually and collectively, the students of NKU will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements. You should familiarize yourself with the Honor Code at the following website: [http://www.nku.edu/~deanstudents/student\\_rights/honor\\_code.htm](http://www.nku.edu/~deanstudents/student_rights/honor_code.htm)

**Cheating:** Cheating will not be tolerated in this course. In accordance with the Code of Student Rights and Responsibilities, faculty members have the right to determine actions to be taken when a student is caught cheating. In this course, students caught cheating and/or plagiarizing is grounds for immediate dismissal and an F course grade, along with a report filed with the Dean of Students.

**Calculators:** Programmable and graphing calculators *are not permitted during exams*. Calculators should be brought to class **every day**, as they will be needed during lecture examples and will be necessary for taking the quizzes and exams. Under no circumstances may calculators be shared during exams, and the lack of an operable calculator will not excuse you from completing the problems! You should also **practice** with this calculator before you use it in an exam!

**Cell Phones:** Cell phones, pagers, and all watch alarms should be turned off (or placed on silent) during class. Furthermore, cell phones and pagers must be put away during class. Should you receive a phone call that you must answer, please quietly leave the lecture room to do so (do not abuse this privilege or it will be taken away). Should your device audibly ring during class, you will be asked to leave with no further discussion and receive an unexcused absence for the day. **Use of a cell phone or pager during an in-class quiz or exam will be considered cheating**, and appropriate actions will be taken by the instructor.

**Assessment:** Assessment of topics learned in this course will be achieved through the completion of online homework assignments, class participation, and critical thinking problems on quizzes and exams. Course grades are assigned based on the following scheme:

Quizzes (10 pts. each, highest 10 count)	= 100 points
Homework and Participation (150 pts total)	= 150 points
4 Exams (150 pts. each)	= 600 points
Final Exam (150 pts.)	= 150 points
<b>Total possible points</b>	<b>= 1,000 points</b>

<u>Point Total</u>	<u>Grade</u>
900 – 1000	A
800 – 899	B
700 – 799	C
600 – 699	D
0 – 599	F

**A C or better is needed in this course to enroll in CHE 320!**

**Other Items:**

- All items on this syllabus are subject to change by the instructor. Check the NKU Blackboard website regularly for updates.
- Students are responsible for reading and understanding all items on the syllabus. Any items not understood must be brought to the attention of the instructor within the first two weeks of class.
- Faculty members reserve the right to dismiss or to have removed a disruptive student from their classrooms.
- No smelly, messy, or loud food is allowed in class. Violators will be asked to leave.
- Students with disabilities who require accommodations (academic adjustments, auxiliary aids or services) for this course must register with the Disability Services Office. Please contact the Disability Service Office immediately in the University Center, Suite 320 or call 859-572-6373 for more information. Verification of your disability is required in the Disability Services Office for you to receive reasonable academic accommodations. Visit the Disability Services website at [www.nku.edu/~disability/](http://www.nku.edu/~disability/).

## CHE 121-N02 (Walters) Spring 2007

MONTH (WEEK #)	MON Lecture 1:00 – 1:50	TUES	WED Lecture 1:00 – 1:50	THUR	FRI Lecture 1:00 – 1:50
<b>January</b> (1)	8 <b>Classes Begin</b> 11	9	10 11	11 <b>BB Quiz 1</b>	12 11
(2)	15 <b>No Classes</b>	16	17 11/13	18 <b>BB Quiz 2</b>	19 13
(3)	22 13	23	24 13	25 <b>BB Quiz 3</b>	26 13
<b>February</b> (4)	29 <b>Last Day to "X"</b> 14	30	31 14	1	2 <b>Exam 1(11,13,14)</b>
(5)	5 14	6	7 14	8 <b>BB Quiz 4</b>	9 14/15
(6)	12 15	13	14 15	15 <b>BB Quiz 5</b>	16 15
(7)	19 16	20	21 16	22 <b>BB Quiz 6</b>	23 16
<b>March</b> (8)	26 16	27	28 16	1	2 <b>Exam 2(14-16)</b>
(9)	5 <b>No Classes</b>	6 <b>No Classes</b>	7 <b>No Classes</b>	8 <b>No Classes</b>	9 <b>No Classes</b>
(10)	12 17	13	14 17	15 <b>BB Quiz 7</b>	16 17
(11)	19 17	20	21 17/18	22 <b>BB Quiz 8</b>	23 18
(12)	26 <b>Last Day to "W"</b> 18	27	28 18	29 <b>BB Quiz 9</b>	30 19
<b>April</b> (13)	2 19	3	4 <b>Exam 3(17-19)</b>	5	6 19
(14)	9 19	10	11 19/20	12 <b>BB Quiz 10</b>	13 20
(15)	16 20/22	17	18 22	19 <b>BB Quiz 11</b>	20 22
(16)	23 22	24	25 <b>Exam 4(19,20,22)</b>	26	27 <b>Classes End</b> <b>Review</b>
<b>May</b> (17)	30	1	2 <b>Final Exam</b> <b>1:00 – 3:00</b>	3	4

- Notes:**
- This schedule is subject to change by the instructor. Please check Blackboard regularly for updates.
  - Numbers indicate chapter content to be covered each class period.
  - Blackboard (BB) quizzes are available online from midnight of the indicated day until 2AM the following morning. Students have 45-60 minutes to complete the quiz during that time window.
  - Bold borders indicate OWL midnight homework deadlines. See your syllabus and the OWL website for more details.