

MADISON AREA TECHNICAL COLLEGE

CHEMISTRY I – CHEM 127 (Course#: 10-806-127)

FALL 2007 (AUGUST 27 – DECEMBER 22)

Instructor: Dr. Elizabeth Pearl Kinney

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Office Hours: 9:30am – 10:30am Monday

1:30pm – 2:30pm Monday

or by appointment

REQUIRED MATERIALS

Lecture notebook, laboratory notebook, scientific calculator (non-graphing model, capable of exponential notation and logarithm functions), and safety goggles (not glasses) can all be purchased at the MATC Bookstore. Lab notebook must be carbon copy style with numbered pages.

REQUIRED TEXT

Chemistry: A Molecular Approach by Nivaldo J. Tro, Pearson Education, Inc.

ISBN#:0-13-100065-9

LECTURES

MWF 12:30 – 1:20 Room 337AB

LABS

W 9:30 – 11:20 (21539) Room 331

F 9:30 – 11:20 (21541) Room 331

PREREQUISITES

A course in high school chemistry, pre-college chemistry, or nature of chemistry, plus high school algebra or its equivalent. It is recommended that students have earned at least a B in the prerequisite courses. If you have not taken the prerequisites, or question whether you have the necessary background for this class, please discuss your situation with the instructor as soon as possible.

COURSE DESCRIPTION

Chemistry 127 is the first semester of a yearlong course in college chemistry. It is designed for students primarily in the Biotechnology Associate Degree program offered at MATC. The course covers the fundamentals of chemistry with an emphasis on quantitative problem solving, data analysis, and experimental skills. **Note this class does not meet chemistry course requirements for students seeking to transfer to another educational institution.**

WORKLOAD

Based on feedback from previous students in the course, you should expect to spend approximately 10 hours per week outside of class for this course. If you are carrying a course load greater than 12 credits, it is suggested that you limit outside employment to less than 20 hours/week.

CLASSROOM ENVIRONMENT

My classroom is an open, collaborative environment based on mutual respect. You should be prepared to ask and be asked questions about the course material. We will also spend time working as a group on class activities and lecture supplement worksheets. If you have any concerns about our group work, please feel free to discuss them with me. I welcome feedback about the operation and content of the course. The best opportunities to provide feedback are by email, during office hours, or in the final Student Opinionnaire surveys.

Calculators

A calculator with scientific notation (EE or EXP) and logarithms (LOG and LN) is needed for this course and should be brought to all lectures, laboratory sessions, and exams. If you forget your calculator on exam day, one **will not** be provided nor will you be allowed to share with a peer. Cellular phones, iPod's, and other electronically operated devices (except a non-graphing calculator) are not permitted for use during lecture or exams. Use of the above mentioned devices during an exam will result in a **zero (0)** for the exam.

Lecture Exams

Lecture exams will be scheduled during the regular 50-minute lecture periods (**Friday, 09/21, Monday, 10/15, Monday, 11/19**). Anyone arriving more than 10 minutes late for the exam will not be permitted to take the exam and the exam score will be recorded as a **zero (0)**. Because of the difficulty of creating fair makeup exams, there will be no make-up exams. Only non-graphing calculators may be used during exams. You **will not** be permitted to share a calculator with a peer. Once the exam begins, you **will not** be allowed to leave the room until you turn in your exam, so plan accordingly. If must miss an exam, you are responsible for contacting me as soon as possible (prior to the exam, if possible or within 24 hours of the exam) regarding the missed exam.

Take Home Quizzes

Take home quizzes (11) will be given throughout the semester to monitor comprehension and help students prepare for the examinations. These quizzes are open book and open notes, but you may not give or receive help from any other person. **There are no make-up quizzes**. If you are absent from class when the quiz is handed out, it is your responsibility to find it on Blackboard. The lowest quiz score will be dropped.

Laboratory Reports

Laboratory reports (12) will be assigned throughout the semester. Reports must be recorded in black ink using a duplicate copy lab notebook available at the MATC bookstore. Reports are due **one week** after the completion of the lab experiment. Late reports will be accepted minus 5% per day late penalty. For detailed information on writing lab reports, see the Lab Report Guidelines handout (Blackboard). The lowest lab report score will be dropped.

Homework Problems

Homework problems will be assigned throughout the course. Solutions to most of the problems are presented in the Problem Solving Workbook (PSW) or in the back of the textbook. Students are strongly encouraged to complete all homework sets, as these problems will prepare you for the quizzes and exams. Homework problems will not be collected nor graded as the answers are presented in the PSW or back of the textbook.

Lab Practical Exam

A lab practical exam will be given at the end of the semester. The practical exam will evaluate skills learned in previous laboratory experiments. Details of this exam will be given during the laboratory period.

Final Exam

A final exam will be administered during exam week (December 18 – 22) at a time to be determined by the MATC administration. The exam will be comprehensive in nature and include content from throughout the entire semester. The exact exam date and time will be announced at a later date.

Attendance

Attendance is not mandatory although previous semesters have shown that the fewer the number of absences the higher the course grade. There will be an attendance sign-in sheet for each lecture and laboratory session. It is **your responsibility** to sign this sheet. If you find yourself within 1% of a higher letter grade (ie. 82% = BC vs. 83% = B) and have attended **all lecture** and **all laboratory sessions** (indicated by signing the attendance sheet), you will receive 10 points (1%) for your attendance. *I will not give 1% increase in grade for attendance of anyone with a C average or below.*

Point Breakdown for Chemistry 127

Lecture Exams	3 x 100 = 300 (30%)
Take-home Quizzes	10 x 20 = 200 (20%)
Lab Reports	11 x 20 = 220 (22%)
Lab Practical	1 x 60 = 80 (8%)
Final Exam	<u>1 x 200 = 200 (20%)</u>
	Total 1000

Grading Scale (based on points)

A	930 – 1000
AB	880 – 920
B	830 – 870
BC	780 – 820
C	700 – 770
D	600 – 690
F	< 600

Grade Disputes Questions

Grade dispute questions about grading on quizzes and exams must be submitted in writing and stapled to the quiz or exam in question. The timeframe for submitting questions is limited to the **first week after the graded work has been returned**. After that time, no grading questions will be accepted for that particular assignment.

Learning Resources

Learning resources are available. The required and other texts are on reserve in the library; please see front desk. All documents handed out during lecture and laboratory sessions are posted on Blackboard. Student Computer Help and the Learning Center are located in the Truax Library. For computer help by phone, call 608-243-4444, or toll-free at 866-277-4445. If you are unsure about your math background, the book Math Survival Guide by J. R. Appling (John Wiley & Sons) or Basic Mathematics for Beginning Chemistry by D. M. Goldish (Prentice Hall) is recommended. A student study guide to accompany the textbook is also available. The website accompanying the textbook provides tutorials, flash cards, reviews, quizzes, and many other useful learning tools. Chemistry tutors are available in the LRC (back left corner of the library) and are no charge to MATC students. Tutor names and schedules will be posted on blackboard by September 7, 2007.

MATC STUDENT'S RIGHTS AND RESPONSIBILITIES

Students are expected to be familiar with MATC policies and procedures. Many of the important policies and procedures are on the MATC website. An easy way to find them is to go to the A-Z index, click on R, go to "rights and responsibilities", and click to see the menu at the top of the web page or, click on <http://matcmadison.edu/matc/studentresources/rights/> and put on your favorites list.

These policies and procedures are also found in the MATC Planner and Student Handbook available at MATC Bookstore, and students are encouraged to retain a current copy of the MATC Planner and Student Handbook for reference as needed during their attendance at MATC.

Academic Integrity is an expectation in all MATC classes. Plagiarism and cheating are unacceptable in this class and in the workplace. MATC has a strong policy on Academic Misconduct which is published on the MATC website. This policy will be enforced in this class. Please refer to this page on the MATC Website to review all Academic Integrity and Misconduct policies. <http://matcmadison.edu/matc/studentresources/rights/misconduct.shtm>

ADA STATEMENT

To request academic accommodations due to a disability for the MATC Truax or Regional Campuses, please contact Disability Resources Services at 246-6716 (Students who are deaf via Relay 711), room 159 at Truax or email drs@matcmadison.edu

For assistance at the MATC Downtown Education Center contact: Disability Resources Services at 259-2979 in room 109 at DTEC.

If you have an accommodation card from their office indicating that you have a disability that requires academic accommodations, please present it to me as soon as possible so we can discuss the accommodations that you might need in this class. It is best to request these accommodations at the beginning if not before class so there is ample time to make the accommodations.

QUICK GUIDE TO LECTURE TOPICS

Week of	Topic	Chapter
08/27	Matter, Measurement, and Problem Solving	1
<i>09/03</i>	<i>Labor Day Holiday – No Class</i>	
09/03	Matter, Measurement, and Problem Solving	1
	Atoms and Elements	2
09/10	Atoms and Elements	2
	Molecules, Compounds, and Chemical Equations	3
09/17	Molecules, Compounds, and Chemical Equations	3
09/21	Exam I Chapters 1 – 3	
09/24	Chemical Quantities and Aqueous Reactions	4
10/01	Chemical Quantities and Aqueous Reactions	4
	Thermochemistry	6
10/08	Thermochemistry	6
10/15	Exam II Chapters 4 and 6	
10/17	The Quantum-Mechanical Model of the Atom	7
10/22	The Quantum-Mechanical Model of the Atom	7
<i>10/24</i>	<i>Convocation – No Class</i>	
10/29	Periodic Properties of the Elements	8
11/05	Chemical Bonding I: Lewis Theory	9
11/12	Chemical Bonding I: Lewis Theory	9
11/19	Exam III Chapters 7 – 9	
11/21	Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory	10
<i>11/23</i>	<i>Thanksgiving Holiday – No Class</i>	
11/26	Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory	10
	Liquids, Solids, and Intermolecular Forces	11
12/03	Liquids, Solids, and Intermolecular Forces	11
	Solutions	12
12/10	Solutions	12
	Final Exam Review	
FINAL EXAM (TBA, Dec 18-22)		

TAKE-HOME QUIZZES

Quiz 1	due 09/05	Quiz 5	due 10/12	Quiz 9	due 11/14
Quiz 2	due 09/14	Quiz 6	due 10/24	Quiz 10	due 12/05
Quiz 3	due 09/26	Quiz 7	due 10/31	Quiz 11	due 12/12
Quiz 4	due 10/03	Quiz 8	due 11/07		

QUICK GUIDE TO LABORATORY TOPICS

Lab Date	Expt	Topic
08/29, 08/31		Safety, Check-In
09/05, 09/07	1	Measurement and Significant Figures
09/12, 09/14	2	Chemical Proportionality: Carbonate and HCl
09/19, 09/21	3	Empirical Formula of a Compound – Magnesium Oxide
09/26, 09/28	4	Synthesis of Ferrofluid
10/03, 10/05	5	Chemical Reactions – Part 1
10/10, 10/12	6	Chemical Reactions – Part 2
10/17, 10/19	7	Solution Preparation
10/24, 10/26	NO CLASS	Convocation
10/31, 11/02	8	Conductivity of Salt Solutions
11/07, 11/09	9	Lewis Structures and Molecular Models
11/14, 11/16	10	Energy Content of Foods
11/21, 11/23	NO CLASS	Thanksgiving Holiday – No Lab
11/28, 11/30	11	Identification of Selected Anions
12/05, 12/07	12	Solubility and Miscibility
12/12, 12/14	LAB PRACTICAL EXAM	Check-out