

SYLLABUS**CHEMISTRY 101****SPRING 2014****LECTURES:** MWF 9:10AM Fulmer 226**INSTRUCTOR:** Dr. Jeremy Lessmann Fulmer 311 335-2098 Please use **Angel** for course related email**OFFICE HOURS:** 10:00AM-11:00AM M→F, or by appointment.**INTERNET:** Angel course management system <http://lms.wsu.edu>.

GRADING:	3 "midterm" exams	300	GRADE RANGES: (minimum points to achieve)		
	10 tutorial quizzes (best 8)	160	900 points	A	730 points C+
	Homework problem sets	80	870 points	A-	700 points C
	SLCI Concept test (2x 10)	20			
	Laboratory reports & worksheets	240	830 points	B+	670 points C-
	Final Exam	<u>200</u>	800 points	B	630 points D+
	TOTAL	1000	770 points	B-	600 points D
					Less than 600 points: F

MIDTERM EXAMS: Thursday Feb 13 6:00– 7:00 pm (Chapters 1 - 4 + Lab Wkst #1 & #2)
Thursday Mar 13 6:00– 7:00 pm (Chapters 5 -7 + Expts 1, 2, 4, 5,)
Thursday Apr 24 6:00– 7:00 pm (Chapters 8-11 plus Experiments 6-8)

FINAL EXAM Thursday May 8 7:00pm–10:00 pm (Comprehensive + all Expts/worksheets)

TEXT General, Organic and Biological Chemistry; McMurry, Ballantine, Hoeger & Peterson; 7th edition (2013). Pearson/Prentice Hall. This is a custom print of Chapters 1-13. A Student Access Kit for the Mastering Chemistry homework system is bundled with new copies of this. Both the text and Mastering Chemistry access are required for this course. Individual access codes for the Mastering Chemistry system can be purchased at the bookstores and on the MasteringChemistry website (see Homework)

LAB TEXT: *Chemistry 101 Laboratory Manual* by WSU Chemistry Department, Star Publishing (2013, required).**LABORATORY NOTEBOOK:** Duplicating with numbered pages. (Sold in Fulmer 318 the 1st and 2nd week of class.)**GOGGLES:** Required by State Law. (Sold in Fulmer 318 the 1st and 2nd week of class.)

CALCULATORS: You are expected to have and to be able to use a scientific calculator. Graphing calculators are allowed but not required. The use of any stored information/programs in a programmable calculator will be considered cheating. Calculators with a full QWERTY keyboard (such as the TI-92 or Voyage 200); PDAs; palmtop, laptop and handheld computers; and cell phone/calculator combinations may not be used during quizzes and examinations. You are responsible for bringing your calculator to all tutorials, lectures, labs and exams.

ELECTRONIC COMMUNICATIONS: We will be using Angel course management system for the course website. Please access using the following URL: <http://lms.wsu.edu>. All official communications for this class will be through the Angel site. This includes lab schedules, lecture notes, exam information, announcements, etc. You are responsible for checking this site. Use your WSU network ID and password to log in. All e-mail communications to the course instructor and TAs should be via the Angel Course Mail tool. Confidential information such as scores and grades may not be transmitted via unsecured email.

LECTURES: Lectures must be attended on a regular basis. You will be expected to read the textbook AHEAD of coming to class. Lectures will supplement and clarify the information from your text rather than reiterate it. Lectures will focus on problem solving and demonstrations of chemical reactions. There will be in-lecture writing and problem assignments that will be graded and counted towards your total point score. These in-lecture assignments will be unannounced, cannot be made up, and constitute the only possible 'extra credit' points in this course. *Bring a calculator to all lectures.* You are encouraged to form collaborative study groups and to sit with your group members during lecture.

EXAMS: There will be three midterm exams and a comprehensive final. All exams will be multiple-choice. You will be responsible for bringing a calculator and a pencil to all exams. A bubble-in answer sheet will be provided. No notes or books are allowed. Exams may be given in rooms other than the regular classroom. These rooms will be announced. No make-up exams will be given. If you are unable to take a scheduled midterm exam for academic reasons beyond your control, you will be allowed to schedule the exam at an earlier time. Midterm exams missed due to illness will be excused, with the other exams plus the final pro-rated to count for more. **Evening exams take precedence over all other university activities.**

QUIZZES: There will be ten 20-point quizzes of which the best eight will count. An eleventh quiz will be given during the 15th week. This quiz is **optional** and can be used as a make-up to replace the lowest grade from the previous 10 quizzes. It will cover material from week 14. Quizzes are given in tutorial. Quizzes will cover lecture, homework and laboratory material from the week prior. You will be allowed to prepare a single 3" × 5" card containing your **HAND-WRITTEN** notes for use during each of the quizzes. No other handwritten material and no printed or photocopied material may be used during the quiz, except for an approved periodic table (the table that appears on the back of your lab manual).

TUTORIALS: These are small classroom meetings associated with your laboratory section and led by your TA. Students who miss tutorial will **not** be allowed into the lab. Quizzes are given in tutorial most weeks (see the course schedule). Tutorials are interactive problem solving sessions driven by your questions. Bring your text, lab manual and calculator to tutorial. Pre-labs and lab reports are due at the start of tutorial. Help with pre-labs and lab reports will not be available in tutorial as they must be completed before attending tutorial. **Tutorial sessions are never canceled!** If your TA fails to arrive for a tutorial section, send one person to contact Ryan Rice (Fulmer 309) or Dr. Lessmann immediately. All others must remain in the tutorial room until the TA or a substitute arrives. Students who leave tutorial under these circumstances will forfeit all points associated with that tutorial/laboratory session (lab report, lab, and quiz).

LABORATORIES: Your course section includes a lecture time and a laboratory time. This is a laboratory UCORE/GER course, thus the laboratory must be completed in order to pass the course. Thus, obtaining a score of zero for 3 or more experiments will result in an F for the course.

Make-up labs: Labs missed for reasons beyond your control, may be made up, on a space available basis, in the same week that the lab is missed. You will be allowed to make up a maximum of two labs per semester in this manner. Permission for a make-up lab must be obtained, in writing, from the Chemistry Office, Fulmer 319A. The permission slip will be collected and signed by the make-up TA. **We cannot guarantee that make-up space will be available.** If you know in advance that you will miss a lab, visit Fulmer 319A as soon as possible in order to maximize the chance that make-up space will be available. **If make-up space is not available:** a report may be written from data supplied by the instructor. Such reports are due at the normal time (in tutorial one week after you should have attended lab) and will be worth no more than ½ credit.

Pre-laboratory assignments: Pre-laboratory assignments are due at the start of the tutorial. Students who fail to submit a complete pre-lab assignment at this time will be assessed a late penalty on the full report and be required to complete the pre-lab assignment before they are admitted to lab. The student will not be given extra time in the laboratory to make up for laboratory time spent completing the pre-lab. Students who attend tutorial without a complete pre-lab assignment will not be allowed to arrange a make-up lab for that experiment.

Laboratory procedure: Students are to perform the experiments individually unless the laboratory manual specifically requires partners for the experiment being performed. Each student is expected to record all data and observations for each experiment directly into their own laboratory notebook. Data may not be recorded on loose, 'scratch' paper then transferred to the notebook. Submission of identical data by two or more students who are not assigned to be laboratory partners will be considered cheating. Appropriate penalties will be applied to all parties. You are required to get your TA's signature on your data and observations and submit the original data/observation pages before you leave lab. Failure to do so will result in zero credit for that experiment.

Laboratory dress code: For your safety, a strict dress code will be enforced in the laboratory. Failure to comply with the dress code will result in expulsion from the laboratory and a consequent score of zero for that experiment. The dress code requires that you be fully clothed from shoulder to toe. No shorts, short skirts, sandals or open-toed shoes are permitted. It is recommended that you purchase and use a full-length lab coat. This will adequately cover the upper body, but your legs, ankles and feet must be covered by your 'street clothing'.

Laboratory reports: Post-laboratory assignments will be due at the start of the tutorial in the week shown on the course schedule. Post-lab assignments are to be handwritten in the laboratory notebook. Failure to submit a post-lab assignment for an experiment will result in zero credit for that experiment (no credit will be given for the pre-lab or data & observations parts in the absence of a full report.) There will be one formal (word-processed) laboratory report that will be worth 1/6 of the total lab score (40 points). Details on this report are in the laboratory manual.

Adjustments to laboratory scores: The instructor will make every effort ensure that the grading of laboratory reports is consistent and fair. To this end, the instructor reserves the right to normalize the laboratory scores from the different laboratory instructors to the same average. Any such adjustment will be made at the end of the semester after all scores have been submitted. TA performance will be assessed throughout the semester with the goal of

eliminating any necessity for these adjustments. Students are encouraged to bring any concerns about the equity of the grading process to the attention of the course instructor.

LABORATORY COAT: Optional but recommended. A strict dress code is enforced in the laboratories. NO SHORTS, NO SHORT SKIRTS, NO SANDALS, NO BARE MIDRIFTS. (See laboratory dress code.)

HOMEWORK: There will be weekly homework assignments consisting of a minimum of ten questions each. These assignments are administered through the Mastering Chemistry web site: <http://www.masteringchemistry.com>. You should have a student access kit for Mastering Chemistry bundled with your text. If you purchased a text that did not include an access code, you may purchase a Mastering Chemistry access code on the web site above. Please follow the instructions and use the access code to register for the system. Then log into the system and enroll in the class: WSUCHEM101SPRING2014. In the space labeled "Student ID", enter your WSU student ID. Failure to enter the correct student ID will make it impossible to transfer your homework scores and you will receive no credit for the homework sets you complete. A new homework assignment will be made available each week (no later than 5:00PM each Monday). Each assignment must be completed by 9:00PM the following Monday. The due date/time for each assignment will be listed with the assignment on the homework site. **Each homework set will be pro-rated to have a value of 8 course points. Thus there will be 120 homework points available this semester. A maximum of 80 points from homework will count toward the final grade.** Quiz and exam questions will be modeled on the homework, so it will be to your advantage to continue to complete the homework even after you have secured your 80 points.

CLASS POLICY ON LATE (OR EARLY) ASSIGNMENTS:

Laboratory reports: Late laboratory reports will be penalized by the loss of 20% of the total points per day (or portion thereof) that they are late. *Reports submitted after the start of tutorial are a day late!* This penalty is applied after the normal grading of the report. Reports submitted more than one week late will receive zero points. No reports will be accepted after 5:00 pm on the last day of classes (April 27, 2012) even if they are not yet one week late.

Homework assignments: Late homework assignments will not be accepted for any reason.

Early submission: If you know that you will not be present at the time a laboratory report is due, they may be submitted early without penalty. Homework assignments may be completed on the Mastering Chemistry as soon as the homework assignment is posted.

Method of submission: It is best to personally deliver late or early submissions to the instructor or TA. Note that, outside of class/laboratory times and posted office hours, we make no pledge to be present or available for this purpose. If you are submitting work at other than the specified time, it is your responsibility to find us. Material may be submitted to Fulmer 319A during normal office hours. Assignments delivered in any other way (slid under the instructor's office door, for example) will be considered to have been submitted at the time they are found, *if* they are found.

ACADEMIC INTEGRITY: Cheating or plagiarism in any form will not be tolerated. Cheating includes, but is not limited to: copying work or allowing your work to be copied; use of unauthorized material at quizzes and exams, any communication between students during a quiz or exam, and actively looking at another student's paper during a quiz or exam. Students repeating the course must rework and rewrite all assignments. Plagiarism includes resubmitting previously graded homework or lab reports from a previous semester, even if they were your own work. Plagiarism also includes using laboratory data from another person or a previous semester. Obtaining information about quizzes taken in other sections is considered cheating. Use of any electronic device other than an approved calculator during a quiz or examination is cheating. All incidences of cheating will be reported to the Office of Student Affairs. The first incidence of cheating will result in a score of zero for that assignment, quiz or exam. A second incident of cheating will result in an F for the course and possible dismissal from the University.

ACCOMODATIONS: Reasonable accommodations are available for students who have a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC). All accommodations **MUST** be approved through the DRC (Washington Bldg, Room 217). Please stop by or call 509-335-3417 to make an appointment with a disability specialist. Further information is available at <http://drc.wsu.edu>

Accommodations are available for students for whom examinations fall on days objectionable due to religious beliefs. Requests for such accommodation must be presented, in writing, to the course instructor at least one week prior to the examination.

SCHEDULE

CHEMISTRY 101

SPRING 2014

	Date	Chapter	Topic	Lab Expt / Topic	Lab report due	Quiz/ Exam	
1	Jan 13-17	1.1-1.6 2.1-2.3	Physical states, elements, compounds, chemical formulae, atoms, atomic nuclei.	Tutorial only.	none	none	
2*	Jan 20 - 24	1.7-1.14	Measurements, units, calculations, uncertainty, density energy, specific heat,	Worksheet 1: <i>Calculations and units.</i>	Worksheet 1	Quiz 1	
3	Jan 27 - 31	2.6-2.9 3 4.11	Electron configurations, Ions & ionic bonds Ionic compounds, Chemical nomenclature, acids & bases	Worksheet 2: <i>Inorganic Nomenclature</i>	Worksheet 2	Quiz 2 and SLCI test due	
4	Feb 3 – 7	4.1-4.7	Covalent bonds, bond polarity, molecular compounds, Lewis structures	Experiment 4: <i>Laboratory techniques</i>		Quiz 3	
5	Feb 10 - 14	4.8-4.10 2.4-2.5	VSEPR, shape, geometry, molecular polarity, the periodic table	Tutorial plus Exam 1 practice	Experiment 4	Exam 1	
6*	Feb 17 - 21	5	Chemical equations, Reaction classes, oxidation numbers, net ionic equations	Experiment 1: <i>Shapes of molecules using models</i>		Quiz 4	
7	Feb 24 - 28	6	the mole, stoichiometry	Experiment 5: <i>Spectrophotometry</i>	Experiment 1	Quiz 5	
8	Mar 3 - 7	7	Heat of reaction, entropy, free energy, reaction rates, chemical equilibrium	Experiment 2 <i>Reactions & Equations</i>	Experiment 5	Quiz 6	
9	Mar 10 - 14	8	The gas laws, intermolecular forces, physical phases and phase changes	Tutorial plus Exam 2 practice	Experiment 2	Exam 2	
	Mar 17 - 21	SPRING BREAK					
10	Mar 24 - 28	9	Solutions, solubility, concentration units, electrolytes, colligative properties, osmosis	Experiment 6 <i>Heat of Reaction</i>	Rough draft of formal report (Optional)	Quiz 7	
11	Mar 31- Apr 4	10.1-10.5 10.12-10.14	Acids and bases, conjugate acid/base pairs, acid/base reactions, titrations	Experiment 7: <i>The molecular mass of a volatile liquid</i>	Experiment 6	Quiz 8	
12	Apr 7-11	10.6-10.10	Acid/base equilibrium, the pH scale, buffers	Experiment 8 <i>Gravimetric Analysis</i>	Formal report	Quiz 9	
13	Apr 14-18	11	Nuclear decay, nuclear reactions, half-life, radiation	Experiment 9: <i>Acid base titrations</i>	Experiment 7	Quiz 10 and SLCI test Due	
14	Apr 21-25	12.	Organic molecules, functional groups isomers. Properties of hydrocarbons	Tutorial plus Exam 3 practice	Experiment 8	Exam 3	
15	Apr 28-May 2	13	Unsaturated and aromatic hydrocarbons, cis-trans isomers. addition reactions.	Tutorial <i>only</i>	Experiment 9	Quiz 11 (Optional)	
	May 8 (Thurs)	<i>FINAL EXAM 7 P M - 1 0 P M</i>					

*Monday Holiday. No lecture on January 20, February 17.

In this course you will be using MasteringChemistry™, an online tutorial and homework program that accompanies your textbook.

What You Need:

- ✓ **A valid email address**
- ✓ **A student access code** (Comes in the Student Access Kit that may have been packaged with your new textbook or is available separately in your school's bookstore. Otherwise, you can purchase access online at www.masteringchemistry.com.)
- ✓ **The zip code for the university:** 99164
- ✓ **A Course ID:** WSUCHEM101SPRING2014

Register

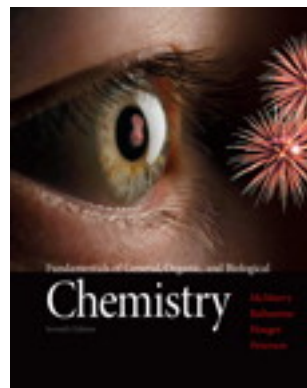
- Go to www.masteringchemistry.com and click **Students** under Register.
- To register using the Student Access Code inside the MasteringChemistry Student Access Kit, select:

Yes, I have an access code. Click **Continue**.

–OR–

Purchase access online: Select **No, I need to purchase access online now.**

Select your textbook. This is "McMurry/Castellion/Ballantine/Hoeger, Fundamentals of General, Organic, and Biological Chemistry, 7e. You will need to select the cover of the standard book, not the custom WSU split edition. The cover you are looking for is shown to the right.



Decide whether you want to include access to the eBook (for which there is an extra charge), and click **Continue**.

Follow the on-screen instructions to purchase access using a credit card. The purchase path includes registration, but the process may differ slightly from the steps printed here.

- **License Agreement and Privacy Policy:** Click **I Accept** to indicate that you have read and agree to the license agreement and privacy policy.
- The system will ask: "Do you have a Pearson Education account?" This is asking if you have ever used an on-line homework system from a Pearson text book in any previous course (it does not have to be a Chemistry course). If you have, then you can use the same login name and password as before. If you are not sure, the system can check for a record of your email address. If you choose "No", you will create a new Pearson Education account (login name and password) now. Even if you have a previous account, you can still create a new one (but not with the same login name as before).
- Upon completion, the **Confirmation & Summary** page confirms your registration. This information will also be emailed to you for your records. You can either click **Log In Now** or return to www.masteringchemistry.com later.

Please continue with the instructions on the other side of this page.

Log In

- Go to www.masteringchemistry.com.
- Enter your Login Name and Password and click **Log In**.

Enroll in Your Instructor's Course and/or Access the Self-Study Area

Upon first login, you'll be prompted to do one or more of the following:

- Enter the MasteringChemistry Course ID: **WSUCHEM101SPRING2014**.
- Enter a Student ID. Enter your eight-digit WSU student ID number. This is important as it will allow your homework scores to be downloaded and counted toward your course grade.
Do not enter your login ID, your WSU network ID, or an email address here. This must be your eight-digit WSU student ID number (the one that appears on your Cougar Card). If you fail to enter the correct number here, you will not receive any credit for the homework you complete this semester.

Click **Save** and **OK**.

Congratulations! You have completed registration and have enrolled in your instructor's MasteringChemistry course. To access your course from now on, simply go to www.masteringchemistry.com, enter your Login Name and Password, and click **Log In**. If your instructor has created assignments, you can access them by clicking on the **Assignments** button. Otherwise, click on **Study Area** to access self-study material.

Support

Access Customer Support at www.masteringchemistry.com/support, where you will find:

- System Requirements
- Answers to Frequently Asked Questions
- Additional contact information for Customer Support, including Live Chat

SLCI Test (Science Literacy Concept Inventory)

Chem 101 is a UCORE lab science. One of WSU's learning goals of a baccalaureate is that graduates gain a level of scientific literacy, i.e understanding how science works, (evidence to test a hypothesis, role of peer review, etc.) and how science informs and integrates with society.

WSU needs to assess the scientific literacy level of our students so we can tell how we are meeting our learning goals and how we might improve our course offerings in order to meet our goals. The Office of Assessment of Teaching and Learning has undertaken a program to see where we stand and this course is part of that project.

The SLCI will be taken twice this semester, at the beginning and towards the end to see if there have been any changes in student perspectives on Scientific Literacy. This is part of your grade in the course however your score on the assessment does not matter. If you participate you will get full credit. Please take the test seriously.

The Assessment is a multiple-choice test that takes a bout 30 minutes to complete and is taken online. Links will be provided in Angel. The test assesses an persons knowledge about general scientific ideas. It does not cover specific knowledge content like how to balance a chemical equation or what a mole is or what are the major parts of a paramecium. We do not expect you to be able to answer all the questions correctly. We want to know where the most common misconceptions are. Faculty who have taken this test miss some of the questions.

Your identity will be kept separate from your answers.