

P O I N T L O M A N A Z A R E N E U N I V E R S I T Y

Last update on 18 January, 2017

Chemistry 101 - Syllabus - page 1

101 Main	PLNU Mission	To Teach ~ To Shape ~ To Send
Notes		Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grade is foundational, truth is pursued, and holiness is a way of life.
Mastering	Course Information	College of Natural and Social Sciences, Department of Chemistry Chemistry 101 (4 units) - Chemistry and Society - Spring 2017
Syllabus	Class Meetings	Section 1: MWF 10:55am-12:05pm, Evans 114 (Final Exam: W 10:30am-1:00pm) Section 2: MWF 1:30pm-2:40pm, Latter 101 (Final: F 1:30pm-4:30pm)
- page 1 - page 2 - page 3 - page 4	Course Description	Chemistry 101 is designed to introduce non-science major students to the basic ideas of modern chemistry and their relevance in contemporary society. Chemical principles are examined and applied to areas such as pollution, nutrition, energy, and medicine. (Meets a general education requirement; does not count toward any Chemistry Department majors. Prerequisite: Math 099 or equivalent.)
Calendar		This course is one of the components of the General Education Program at Point Loma Nazarene University, under the category of Exploring an Interdependent World. The purpose of general education is to provide a common educational experience, to develop essential skills, and to provide a broad cultural background for personal and professional growth. By including this course in a common education experience for undergraduates, the faculty supports an introduction to the natural and social sciences as tools for exploring the world, with emphasis on collecting and interpreting empirical data for both theoretical and practical purposes.
Quad 1 Quad 2		I want you to gain confidence in your ability to learn chemistry, your ability to make decisions based on science, and your appreciation for science in our world.
	Course Materials	- Textbook: <i>Chemistry for Changing Times</i> , 14th edition by JW Hill & TW McCreary, Pearson Education, Inc. 2016. One of the following choices must be purchased, from the bookstore or the publisher or elsewhere. From Publisher's website only: Mastering without etext. (Buy book separately.) ISBN: 9780133923185 for Mastering with etext ISBN: 9780133923169 for Mastering with etext + Books a la carte (loose leaf) ISBN: 9780321971183 for Mastering with etext + Print Text - Online Homework: http://www.masteringchemistry.com/ , included with any of the above three textbook options. Course code is CHE101SPRING2017PLNU. - Calculator (TI 30XA or similar.) To ensure that no student has an unfair advantage, calculators/devices that can store or display words are not allowed.
	Professor Info	Dr. David W. Lingner Office: Rohr Science Trailer, West Room Class Website: http://lingnerchem.com/plnu/101 Email: dlingner@pointloma.edu (frequently checked, day & night) Phone: 619-849-2470 (seldomly checked) Office Hours: MWF 8:30-9:30am, T 12:30-1:30pm, Th 11-12noon, or by email any day and time.
		"Haec studia adolescentium alunt, senectutem oblectant, secundas res ornant, adversis perfugium ac solacium praebent." Translated: "These studies fortify one's youth, delight one's old age; amid success they are an ornament, in failure they are a refuge and a comfort." - Marcus Tullius Cicero The knowledge you gain here will enrich your world and make future learning easier and more fun.

P O I N T L O M A N A Z A R E N E U N I V E R S I T Y

Last update on 18 January, 2017

Chemistry 101 - Syllabus - page 2

101 Main

Notes

Mastering

Syllabus

- page 1

- page 2

- page 3

- page 4

Calendar

Quad 1

Quad 2

<p>Student Learning Outcomes</p>	<p>These outcomes are expected and will be assessed on exams and quizzes:</p> <p>(a) Demonstrate knowledge of fundamental principles of atomic structure, bonding, acids and bases, oxidation and reduction, and basic nomenclature,</p> <p>(b) Demonstrate knowledge of fundamentals of nuclear chemistry,</p> <p>(c) Demonstrate knowledge of key terminology in organic chemistry and biochemistry, (d) Demonstrate knowledge of key concepts in air and water quality as well as energy production and consumption, (e) Perform research on a topic and make a presentation intended to teach others about the key concepts.</p> <p>Students will acquire knowledge of human cultures and the physical and natural world while developing skills and habits that foster life-long learning. Specifically, General Education Learning Outcome 1e (Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature.) will be assessed in this course using student performance on problems that are quantitative in nature on the comprehensive final exam.</p>
<p>Attendance Policy</p>	<p>Regular and punctual attendance at all class meetings is considered essential to optimum academic achievement. If the student is absent from more than 10% of class meetings (4 absences), the professor can file a written report which may result in de-enrollment. If absences exceed 20% (8 absences), the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation.</p> <p>I expect you to be present and on-time for each class meeting. Please send me an email <u>in advance</u> if you expect to be absent or late for any class meeting. Absences are excused only for Provost-approved activities (certain events, intercollegiate sports, etc). You must notify me by email regarding your upcoming absence, even if someone else representing the Provost has sent me an email on your behalf. If you're sick and cannot attend class, please let me know by email prior to the start of the class you will miss, <u>and</u> visit the Wellness Center to ensure that your illness can be treated and is not more serious than you think.</p> <p>If you miss any class you remain responsible for everything covered (including schedule changes, assignments, etc.). Send me an email to find out what you missed, and review notes from one or more of your classmates.</p>
<p>Disability Resources</p>	<p>While all students are expected to meet the minimum academic standards for completion of this course as established by the instructor, students with disabilities may require academic accommodations. If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. See the Disability Resource Center section of the PLNU website for additional information.</p>
<p>Copyright Policy</p>	<p>Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.</p>
<p>Student Privacy</p>	<p>PLNU adheres to the student privacy provisions of the Family Educational Rights and Privacy Act (FERPA) of 1974. Following FERPA guidelines, grades in this class will be communicated to the students on an individual basis. All graded work for this class will be returned to students individually. Exams will be returned during class with scores not visible to others.</p>
<p><i>"If you're not part of the solution, you're part of the precipitate." - Anonymous Chemist</i></p>	

P O I N T L O M A N A Z A R E N E U N I V E R S I T Y

Last update on 18 January, 2017

Chemistry 101 - Syllabus - page 3

<p>101 Main</p> <p>Notes</p> <p>Mastering</p> <p>Syllabus</p> <p>- page 1</p> <p>- page 2</p> <p>- page 3</p> <p>- page 4</p> <p>Calendar</p> <p>Quad 1</p> <p>Quad 2</p>	<p>Academic Integrity</p> <p>Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the University Catalog. See the Academic Policies section of the PLNU website for definitions of kinds of academic dishonesty and for further policy information.</p> <p>I expect all students to exhibit exemplary integrity, reflecting the spirit and high standards of our shared community, and I view any dishonesty as an insult to your classmates and to the University. Cheating or plagiarism in our chemistry class includes but is not limited to direct copying of another student's homework; allowing or not preventing another student to look at your paper during a quiz or exam; looking at another student's paper during a quiz or exam; using notes, books, unallowed calculators, cell phones, camera, or other text-capable devices during a quiz or exam.</p>
<p>Grades</p>	<p>Grades in Chemistry 101 will be earned according to the following scale: A: 90.0% or higher; B: 80.0-89.9%; C: 65.0-79.9%; D: 50.0-64.9%; F: 49.9% and lower. Plus and minus grades may apply to the top and bottom thirds of each range, with allowances or deductions for attendance, responsibility, professionalism, interest, and active participation in class.</p> <p>Grade points will be accumulated as follows: Four exams and several in-class activities and quizzes (60%), Mastering Chemistry online homework (10%), a group project (15%), and a final (15%). From among the five scores in the first category (exams and the quiz/activity average), the highest exam is weighted 20%, the second and third highest scores are weighted 15% each, the fourth highest score is weighted 10%, and the lowest is dropped.</p> <p><i>For example, if your exam scores are 95, 80, 75, and 50, and your activity average is 90, then the 50 would be dropped, the 95 would count 20%, the 90 and 80 would count 15% each, and the 75 would count 10%.</i></p> <p>If the activity/quiz average is higher than all of the exams, then the highest exam score would be weighted 20% and the activity average would be weighted 15%. Exams and quizzes will be closed-book tests with a fixed time limit. Therefore, your understanding of the material must be clear enough to produce answers to most of the exam/quiz questions rather quickly. Partial credit will be given for correct reasoning at any step of a problem, but only if it communicated clearly enough for me to understand.</p>
<p>Solutions</p>	<p>For problems that call for a solution or explanation, no credit will be given for an answer alone; the method or reasoning must also be shown. In many cases, you will use unit conversions to arrive at a numerical answer and you must show your work, with units cancelling, to receive full credit for your answer. Your answers should be clear enough so that one of your peers could easily follow what you did if they had not worked the problem before.</p>
<p>Final Exam Policy</p>	<p>Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the Class Schedules section of the PLNU website. No requests for early examinations or alternate days will be approved.</p>
<p><i>"Success is not the key to happiness. Happiness is the key to success. If you love what you're doing, you will be successful." - Albert Schweitzer</i></p>	

P O I N T L O M A N A Z A R E N E U N I V E R S I T Y

Last update on 18 January, 2017

Chemistry 101 - Syllabus - page 4

<p>101 Main</p> <p>Notes</p> <p>Mastering</p> <p>Syllabus</p> <p>- page 1</p> <p>- page 2</p> <p>- page 3</p> <p>- page 4</p> <p>Calendar</p> <p>Quad 1</p> <p>Quad 2</p>	<p>Success in Chemistry</p> <p>A very good way to do well in my class is to focus carefully on the topics being discussed during the lecture and in the homework, quizzes, and activities. Don't just check-in physically; be there in body, mind, and spirit; and pay attention. Force yourself, if necessary, to be interested in the concepts. It's likely you'll become more interested that way. Really, it works. Understand what your professor wants you to know for exams. How will you know what that is? Well, pay attention during class, go over your notes after class and compare what I covered to what is in the book, do the homework assignments and make sure you can come up with the answers on your own, try the multiple-choice questions at the end of each chapter, try the questions at the end of each chapter, ask me questions in class, send me emails or visit me in my office if you don't quite get something. The questions you see while you're studying should resemble those that you see on the exams, so make sure you can answer them correctly without having to take too long figuring out what to do.</p> <p>The University wants you to be able to understand scientific concepts, and know something about how scientists think. This course is an introduction to chemical concepts and lab techniques. I love teaching courses like this because students who start off intimidated by or uninterested in science often finish the course with new-found interest and a confidence that they can learn more. With so many local, national, and global issues and policies centered around scientific theories, it is critical that you as a responsible citizen can separate the good science from the rhetoric and scare tactics, so you can make informed decisions as we all strive to keep society functioning and growing, safely and sustainably, into the future.</p>
<p>Questions?</p>	<p>Please ask questions. It is my job to answer them. Scientists are curious characters. People either know all the answers or they ask. Those who ask typically become the smartest people in the class. This truism will apply not only in your classes at PLNU, but also in your workplace. Questions are the key to successful communication of what you expect from, or will do for others. I usually assume that students understand me, so if you are so lost that you don't know what to ask, please ask me what to ask.</p> <p>I have never heard an unnecessary question.</p>
<p>Online Homework</p>	<p>Online homework from http://masteringchemistry.com will be assigned for each chapter. Details and due dates will be posted as we get to each chapter in lecture. You are responsible for checking the Mastering Chemistry website to see updates as the semester progresses. I will give reminders in class and/or via email. Usually, the first assignment for a chapter will be due as we start the chapter, and the second will be due near the exam date.</p>
<p>Group Project</p>	<p>During the second half of the semester, you will work in groups of three or four students to research and present a topic that interests you. The textbook covers quite a few topics that we will not have time to cover formally, so the group project gives you an opportunity for more diverse learning. Ideally, the topic should be a current global issue in which chemistry plays a role in understanding, measuring, or helping to resolve the issue. I hope you will enjoy these presentations.</p>
<p>Missed Work</p>	<p>If you are absent and miss a class, you will receive a zero grade for any graded work that you miss, including exams. A zero grade on an exam would result that score being dropped, according to the grade details in the box above.</p>
<p>Classroom</p>	<p>Please be respectful to others. Arrive on time and set your electronic devices to silent mode or (preferably) off. I expect you to read through the book at least twice, once before and once after. I expect you to do the homework on time and to ask me questions, in person or by email, whenever you have trouble understanding anything. No late homework will be accepted.</p>
<p><i>"In every job that must be done, there is an element of fun." - Mary Poppins</i></p>	

P O I N T L O M A N A Z A R E N E U N I V E R S I T Y

Last update on January 18, 2017

101 Main

Notes

Mastering

Syllabus

- page 1

- page 2

- page 3

- page 4

Calendar

Quad 1

Quad 2

Chemistry 101 - Tentative Schedule - Spring 2017, page 1 of 2			
1	Tue	1/10	Chapter 1 - Alchemy, Chemistry
	Wed	1/11	Chapter 1 - Matter, Measurements
	Fri	1/13	Chapter 1 - Unit Conversions
2	Mon	1/16	ML King Day - Enjoy your long weekend.
	Wed	1/18	Chapter 2 - Atomic Theory
	Fri	1/20	Chapter 2 - Moles, Periodic Table
3	Mon	1/23	Chapter 3 - Subatomic Particles, Isotopes
	Wed	1/25	Chapter 3 - Atomic Spectra, Bohr model
	Fri	1/27	Chapter 3 - Quantum model, Electrons
4	Mon	1/30	Exam 1 on Chapters 1-3
	Wed	2/1	Chapter 4 - Chemical Bonds
	Fri	2/3	Chapter 4 - Chemical Bonds
5	Mon	2/6	Chapter 4 - Chemical Bonds
	Wed	2/8	Chapter 4 - Chemical Bonds
	Fri	2/10	Chapter 5 - Chemical Accounting
6	Mon	2/13	Chapter 5 - Chemical Accounting
	Wed	2/15	Chapter 6 - Intermolecular Forces
	Fri	2/17	Chapter 6 - Intermolecular Forces
7	Mon	2/20	Exam 2 on Chapters 4-6
	Wed	2/22	Chapter 5 - Solutions
	Fri	2/24	Chapter 7 - Acids and Bases
8	Mon	2/27	Chapter 7 - Acids and Bases
	Wed	3/1	Chapter 8 - Redox
	Fri	3/3	Chapter 8 - Redox
SB	Mon	3/6	Spring Break - Enjoy your week.
	Wed	3/8	Spring Break - Enjoy your week.
	Fri	3/10	Spring Break - Enjoy your week.

* This schedule may change slightly as the our class evolves. Additional chapters/sections may be covered at any time during the semester, as opportunities arise.

"Catch on fire with enthusiasm and people will come for miles to watch you burn." - John Wesley

P O I N T L O M A N A Z A R E N E U N I V E R S I T Y

Last update on January 18, 2017

Chemistry 101 - Tentative Schedule - Spring 2017, page 2 of 2			
101 Main	9	Mon	3/13 Chapter 9 - Organic Chemistry
		Wed	3/15 Chapter 9 - Organic Chemistry
		Fri	3/17 Chapter 9 - Organic Chemistry
Notes	10	Mon	3/20 Exam 3 - Chapters 7-9
		Wed	3/22 Chapter 10 - Polymers
		Fri	3/24 Chapter 11 - Nuclear Chemistry
Mastering	11	Mon	3/27 Chapter 11 - Nuclear Chemistry
		Wed	3/29 Chapter 16 - Biochemistry
		Fri	3/31 Chapter 16 - Biochemistry
Syllabus	12	Mon	4/3 Chapter/Subject TBD
		Wed	4/5 Chapter/Subject TBD
		Fri	4/7 Chapter/Subject TBD
- page 1	13	Mon	4/10 Exam 4 on Chapters 10, 11, 16, & others TBD
		Wed	4/12 Chapter/Subject TBD, Group Projects
		Fri	4/14 Easter Break - Enjoy your long weekend.
- page 2	14	Mon	4/17 Easter Break - Enjoy your long weekend.
		Wed	4/19 Chapter/Subject TBD, Group Projects
		Fri	4/21 Chapter/Subject TBD, Group Projects
- page 3	15	Mon	4/24 Chapter/Subject TBD, Group Projects
		Wed	4/26 Course Review/ Quiz
		Fri	4/28 Course Review/ Activity
- page 4	FW	Mon	5/1 Finals Week, review sessions TBD
		Wed	5/3 Comprehensive Final Exam, Section 1 (10:30 am - 1:00 pm)
		Fri	5/5 Comprehensive Final Exam, Section 2 (1:30 pm - 4:00 pm)
Calendar	* This schedule may change slightly as the our class evolves. Additional chapters/sections may be covered at any time during the semester, as opportunities arise.		

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