Chemistry 125 (General Chemistry I)
Summer 2014 Syllabus

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Catalog Description: Through lecture and lab experience, students will be exposed to and will demonstrate an understanding of basic concepts in chemistry such as nomenclature, stoichiometry, thermochemistry, the periodic table, electronic structure and bonding. Prerequisite: Two years of high school algebra or any college mathematics course. 4 credits.

READINGS:
Required text: package ISBN# 0321980050

Text:	0321809246	Tro, Chemistry: A Molecular Approach, 3/E (2014), Pearson.
Access Code:	032190351X	Tro, Modified MasteringChemistry with Pearson eText – ValuePack Access Card – for Chemistry: A Molecular Approach, 3/E (2014)

The package ISBN# 0321980050 includes both the text and the access code. Alternatively, you can purchase the text separately (ISBN# 0321809246) and purchase the access code online using a credit card or PayPal on the Pearson website.

COURSE GOALS & OBJECTIVES:
This course meets the Doane College Foundational Areas of Knowledge outcomes for Scientific Perspectives:

Students will gain a greater understanding of scientific thinking and applications using core ideas in a course that includes a laboratory or field experience. Students will consider the complexities of scientific methodologies in one or more disciplines of the natural sciences, the scientific context of issues they will confront as informed citizens, and the scientific impact on the global community. Students will work to:

1. Employ methods of science for inquiry in a scientific discipline
2. Develop their scientific literacy and ability to critically evaluate scientific information
3. Consider the ethical and social implications of scientific study and use of scientific findings

Other Global Learning Outcomes include:
- Communicate effectively in writing.
- Read and interpret graphs and data.
- Demonstrate the quantitative skills needed to succeed in General Chemistry.

COURSE MATERIAL:

Chapter 1 – Matter, Measurement, and Problem Solving
Chapter 2 – Atoms and Elements
Chapter 3 – Molecules, Compounds, and Chemical Equations
Chapter 4 – Chemical Quantities and Aqueous Reactions
Chapter 5 – Gases
Chapter 6 – Thermochemistry
Chapter 7 – The Quantum Mechanical Model of the Atom
Chapter 8 – Periodic Properties of the Elements
Chapter 9 – Chemical Bonding I: Lewis Theory
Chapter 10 – Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory

ON-LINE LEARNING STRATEGIES & ASSESSMENTS:

1. BlackBoard:

   By enrolling in this course you are automatically enrolled in this ***Blackboard*** course (bb2.doane.edu), 14SUM: General Chemistry I Sec 1. You will find a menu on the left side of the screen with some links.

   The more important links are:

   Chapters – Folders of each chapter with several Learning Modules within each Chapter. Here you will find specific information of what to read in the text, the links to the Educreations lectures and worked examples, the listing of Mastering Assignments, YouTube videos, and the Online ChemLabs to be completed.
   Mastering Chemistry – links to the MyLab & Mastering for Blackboard.
   Online ChemLabs – access the laboratory
   Educreations – link to the main website for course lectures and worked examples
   Discussion Board – access the discussion board forums

   Some other links that are not required but you may find useful are:

   ChemTutor – help for a variety of topics in General Chemistry.
   General Chemistry Online – By Fred Senese - lots of help and resources, including hyperlinked notes and guides, tutorials, FAQs, skills checklist, and self-grading examinations.
   ChemWiki – a hyperlinked textbook created by the folks at UC-Davis.
   Principles of General Chemistry – an alternative, traditional textbook that is open-sourced.

2. Pearson MyLab & Mastering for Blackboard (Mastering Chemistry):

   The first time you click a MyLab & Mastering link from within the Blackboard course, you are guided through the Pearson registration process. The Blackboard course is directly linked to the Pearson website so that all subsequent clicks on Mastering links will be a direct access without having to

enter extra password information.

For the payment, the Pearson registration process requires that you do one of the following: 1) Use the access code purchased with the textbook or a separate kit, 2) purchase access online using a credit card or PayPal, or 3) request temporary access (if you're waiting for financial aid and/or can't pay immediately, you can access the full set of features without payment for 14 days.)

All of the online coursework assessment is done through the **Mastering Assignments** of which there are three types:

1. **Tutorials** – specific to each Learning Module, a set of 5 questions. These usually have some introduction along with the questions and offer hints to help you answer the questions. These are designed to be completed after reading the assigned textbook sections and watching the lecture(s) on Educreations.

2. **Homework** – specific to each Learning Module, selected questions from the end-of-chapter problems. These questions do not offer hints, but allow multiple attempts at answering with some feedback when incorrect. These are designed to be completed after the Tutorials and watching the worked example(s) on Educreations.

3. **Chapter Quizzes** – specific to each Chapter, these are mostly multiple choice questions that are graded either right or wrong. These are designed to be completed after each Learning Module for the entire Chapter has been completed.

On the Pearson MyLab & Mastering website you will also find access to the **Pearson eText** as well as the **Study Area** which includes optional extra lessons, practice quizzes, and video.

3. Video Lectures:

Video lessons that I have created specifically for this course are available on ***Educreations.com***. You can register (for free) in this course "General Chemistry 1", COURSE CODE: C959BD by going to "http://www.educreations.com" where you can sign up.

I have direct links to each lesson within the Learning Modules on BlackBoard. There are lectures and worked examples from the end-of-chapter problems in the textbook. The length of each lesson should be less than 15 minutes long, and you may rewind, move forward or replay as you wish. I suggest you take notes while watching the videos.

4. Lab:

Virtual lab experiments will be conducted through OnlineChemLabs. Students should go to "NEXT.onlinechemlabs.com" and enter DOACHMSU14 in the green registration box. This opens a student registration page, and then they will

be guided through the verification and payment process. The price for the labs is $35 total, payable through PayPal. The labs are autoscored (100 points possible per lab). The labs for this course are as follows:

1. Laboratory Techniques
2. Error Analysis
3. Spreadsheets and Linear Regression
4. Density
5. Combustion
6. Synthesis and TLC
7. Metal + HCl
8. Calorimetry
9. Absorbance
10. NMR

Information of when to complete each lab will be given within the Chapters on BlackBoard. This is to make sure that prior specific background course material has been completed.

5. On-Line Follow-up Sessions:

There will be **three** follow-up sessions to be completed immediately after completion of the Chapter Quizzes and Learning Modules for each of the first three chapters. These sessions are intended to review strengths and weaknesses and to have an opportunity to discuss future learning strategies.

I will conduct these video sessions with **Google Hangouts**. You will need to add Google+ (Google Plus) to your Google account if you haven't done so already. I plan for these sessions to be about 30 minutes long and they will be graded. I will ask you to answer some questions from the chapters you have completed, but you may use your book and notes during the sessions.

If you'd like, I can also arrange for more follow-up sessions for assistance with future material. These would not be graded.

6. Discussion Board:

Conducted through Blackboard, through the **Discuss** menu link, there will be several discussion board forums for you to participate throughout the semester.

FINAL EXAM:

The final exam (comprehensive) will take place in the Lied Science & Mathematics Building on the Doane College Crete Campus on the last day of class – Saturday, July 26, 2014. Allow three hours to take the exam. Specific room and time information will be provided at a future date. Remember to bring a **photo ID**, a pencil or pen, paper and a calculator to the exam. **Note**: Programmable calculators, graphing calculators, cell-phones, computers, or any mobile device are **not** allowed for use on final exams.

If you are unable to be present for this exam, you can arrange for a **proctored exam** in your area by any one of the following methods:

1. A professional or school testing center
2. High school principal or administrator
3. College or university faculty member or administrator
4. Military chaplain or education officer (if you serve in the armed forces)

Under no circumstances can a family member, close friend, or tutor serve as a proctor, nor can the exam be sent to a personal address or e-mail. Contact your chosen proctor to get information about fees, hours, other requirements, and to ensure they have the day and time available that you wish to take your exam. This should be set-up at least two weeks in advance. Students are responsible for all arrangements and fees connected to exam proctoring.

Remember to bring a **photo ID**, a pencil or pen, paper and a calculator to the exam. **Note:** Programmable calculators, graphing calculators, cell-phones, computers, or any mobile device are **not** allowed for use on final exams.

All coursework must be completed before the exam can be released to your proctor. The proctored exam must be completed no later than Saturday, July 26, 2014. Once your proctor is chosen and approved by me, I can e-mail a copy of the final exam directly to the proctor. Preferably, the completed exam may be scanned electronically by your proctor and sent by e-mail back to me at david.clevette@doane.edu. Alternatively, you must provide your proctor with a prepaid, preaddressed envelope so that the completed exam can be mailed to me at:

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GRADING:

Your grade will be determined from the following categories:

Item	*Weighted %*
Final Exam	25
MasteringChemistry Tutorials	10
MasteringChemistry Homework	15
MasteringChemistry Chapter Quizzes	20
Laboratory - OnLine	20
Follow-up Sessions	5
Blackboard Discussion Board	5

You will be given a separate letter grade for each category listed above. Your course grade then will be a weighted average as described in the table above. There will be a different grading scheme for each category as follows:

Cutoff values:

Final Exam (scaled to a 75% average):

A	**85%**	**B**	**75%**	**C**	**60%**	**D**	**45%**

MasteringChemistry Tutorials, Homework, and Quizzes:

A	**95%**	**B**	**85%**	**C**	**75%**	**D**	**65%**

Laboratory:

A	**90%**	**B**	**80%**	**C**	**70%**	**D**	**60%**

+ and – grades will be established around the above cutoffs.

Follow-Up Sessions and Blackboard Discussion Board:
These are largely subjectively graded. The Follow-Up Sessions will be graded on how well you can answer selected questions. The Discussion Boards will be graded on level of involvement, relevance of postings, clear expression of opinions, and an overall contribution to the learning community.

Each category item is assigned a value using a GPA scale as follows:

A+	4.33	B+	3.33	C+	2.33	D+	1.33
A	4.00	B	3.00	C	2.00	D	1.00
A-	3.67	B-	2.67	C-	1.67	D-	0.67
						F	0.00

Your course grade will be determined from a weighted average of those values corresponding to the following course GPA scale:

A+	4.17 - 4.33	B+	3.17 - 3.49	C+	2.17 - 2.49	D+	1.17 - 1.49
A	3.83 - 4.16	B	2.83 - 3.16	C	1.83 - 2.16	D	0.83 - 1.16
A-	3.50 - 3.82	B-	2.50 - 2.82	C-	1.50 - 1.82	D-	0.50 - 0.82
						F	0.00 - 0.49

A final caveat: You must pass both the final exam and the laboratory (with a D- or better) in order to pass the course.

ACADEMIC INTEGRITY:

In accordance with Doane's Academic Dishonesty Policy any act of dishonesty in pursuing course work will be penalized. If it is a first act (no reported incidents in any course) the penalty is an assignment of zero points for the particular piece of work involved. Second and subsequent acts of dishonesty will be handled by the Vice President for Academic Affairs. Each act of dishonesty will be reported to the Academic Affairs office. For this particular course, acts of dishonesty include representing someone else's work as your own on exams and all assignments.

NOTE: The procedures in this course are subject to change in the event of extenuating circumstances.