

**Chemistry 114 B**  
General Chemistry  
Spring 2016

**Course Instructor:** Professor Shari U. Dunham  
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**Class Meetings:** MWF 10:20-11:10am, CHOS 204  
T 7:50(PA), 8:55(PB), 10:20(PC), or 11:45(PD) CHOS 204

**Office Hrs:** Will be announced and posted on **BlackBoard**, or by appointment.

**Lab:** M, T, W, R or F 1:15-4:15pm, CHOS 207

**Required Materials:**

**eText:** "Chemistry" available free as pdf or web view at Openstax College (<https://www.openstaxcollege.org/textbooks/chemistry/get>). You may purchase an OPTIONAL hardcopy at our bookstore and on Amazon.com for ~\$55 (ISBN#978-1-938168-39-0). An online solutions manual, is also free. Hardcopies of chapters and of solutions are located in the super lab commons CHOS 205.

**Sapling account:** You are required to register with Sapling Online Learning System and complete online homework assignments throughout the semester. Instructions to access Sapling are printed on the last page of this syllabus and posted on the course Blackboard site.

**Homework Journal:** You are required to keep a written journal of your calculations and comments on your Sapling homework in a spiral or bound notebook. Your instructor may request to see your Sapling homework journal at any time.

**Scientific Calculator:** Must be able to calculate logs, exponents, sci. notation  
No smart phones or apps can be used on quizzes or exams!

**Black Board Web Site:** <http://blackboard.moravian.edu/> Throughout the semester all handouts, announcements, quiz and exam information, keys, and learning goals will be posted to the course blackboard page.

**Course Goals:**

- Recognize relationships between physical properties of matter and their physical state, molecular structure, solubility, rates of reaction, equilibrium processes including acid-base reactivity, oxidation-reduction reactivity, structures and properties of metal-complexes.
- Apply qualitative and quantitative aspects of chemistry to determine the rates of chemical reactions, and the concentrations of compounds and molecules during these reactions and at equilibrium at various pHs.
- Use the scientific method to actively seek knowledge through the study of chemical processes in a laboratory environment.

**Attendance:** Participation in class and in problem sessions is part of your semester grade in this course. In addition, it will be *very difficult* for you to learn chemistry concepts and follow them over the semester if you are not engaged in this course (in class, activities, homework, and labs). As a reminder, the college policy on attendance can be found at <http://www.moravian.edu/studentLife/handbook/academic/academic.html> If you anticipate an unavoidable absence, please **notify your instructor ASAP before** you are absent. Makeup quizzes and exams are given at the discretion of the instructor.

**Academic Honesty:** Please be familiar with the college policy on academic honesty <http://www.moravian.edu/studentLife/handbook/academic/academic2.html> Because this course involves small group learning activities, each student may exchange experimental details and data with her/his group. However, any work submitted in your name is to be your work alone. You are encouraged to discuss work with others on homework, but merely copying answers is not acceptable.

**Learning Differences:** Students who wish to request accommodations in this class for a disability should contact the Academic Support Center, located in the lower level of Monocacy Hall, or by calling 610-861-1401. Accommodations cannot be provided until authorization is received from the Academic & Disability Support office.

**Grading:** You are not in competition with anyone else in this class. Your grade will be determined only by the percentage of the total points you achieve. In the event that the class average on any exam, quiz, or lab falls below 75%, that score will be curved so that the class average is 75%.

#### Percentage Based Grading Scale

97-100	A !	80-82	B-	63-66	D
93-96	A	77-79	C+	60-62	D-
90-92	A-	73-76	C	< 60	F
87-89	B+	70-72	C-		
83-86	B	67-69	D+		

There are a total of 1000 pts that will be factored into your final grade in this course. Points on an exam, quiz, homework, or laboratory count the same amount.

Exams (3@ 100pts each)	300pts
Final Exam	120pts
Quizzes (8@15pts each)	120pts
Online Homework (8@15pts each)	120pts
Participation (14@10pts each)	140pts
Laboratory (10@ 20pts each)	200pts
Total	1000pts

**Exams:** Three in-class exams (100pts each) and one final (120pts). While the material you will be responsible for on each exam could vary, (dependent upon the pace of the course) the following dates will be used for examinations:

Exam 1	Monday, February 8
Exam 2	Monday, February 29
Exam 3	Monday, April 4
Final	Wednesday, May 4, 8 AM

**Quizzes:** After completing a section of the text and a related homework assignment, a quiz will be given that will provide examples of questions and format that will appear on the exam. Quizzes will have two parts. You will first take the quiz as an individual and submit your answers. You will then take the quiz in a small group of 3-4 students submitting one set of answers as a group. Each quiz score will be 9pts individual score and 6 pts group score. Eight quiz scores will be combined for your semester quiz grade.

**Homework:** Online homework will be assigned and scored through the Sapling Online Learning System (see access instructions at the end of this document). Assignments are often due one week after they are assigned. Eight homework scores will be combined for your semester homework grade.

**Participation:** Class participation will be assessed weekly through in-class Plickers responses (3pts) and group activities during problem sessions (7pts).

**Labs:** Details will be provided in a separate laboratory syllabus. Grading is out of 20pts per week with the top 10 labs counted as your lab score for the semester.

**Makeup Quizzes, Labs, and Exams:** You are responsible for understanding the content of the material covered during a missed quiz or lab. Makeup exams, labs, or quizzes will be given at the discretion of the instructor for absences that have been documented by the Dean of Students Office and/or a health professional.

**Class Etiquette:** Turn off or silence cell phones! NO text-messaging during class. Do NOT record sound or photos of classmates or instructors without permission.

**Email Etiquette:** Although email may seem like an instantaneous form of communication, it is not. Just because you sent me an email, does not mean that I have read it, understood it, and/or approved any requests you made in it. Please note that I will reply to all email received, usually within 24 hrs. Assume that email sent between the hours of 9pm and 9am has NOT been read.

#### **Tips for Success:**

1. After class, reread the textbook pages that go with the class discussion or activity, and begin working example problems in your text with the “answer covered”. Next, move on to the problems in your Sapling assignment. **If it takes you multiple attempts to correctly answer a Sapling problem, you need MORE practice** with that type of problem, and you must attempt similar problems at the end of the chapter. See your instructor for help on these problems, and check answers to these problems (answers and solutions are available through OpenStax).

2. This course regularly uses a group-learning format that depends upon your **active** contribution. **You will likely be asked to explore data and make predictions BEFORE any class discussion has taken place.** This process is unconventional for many science courses, and it may be uncomfortable at first because you will need to rely on logic and applying your growing chemistry knowledge, and **NOT** upon “finding the answer” by searching your textbook, lecture notes, or *Googling*!

3. If you are studying in a group, be certain that you can **“go it alone”**. Spend some time alone answering the same problems done in your group, and then attempt similar problems **on your own** from the text.

4. If you are having difficulties, **don’t wait to get help!** You can...

- Stop by my office with questions
- Attend a chemistry peer help session (Tues/Thurs 7-9pm: Superlab Commons CHOS 205)
- Request a peer tutor from Academic Support Center (Monocacy Hall) using the following link: [bit.ly/NeedTutorMC](http://bit.ly/NeedTutorMC)

**Pace of the Course:** The schedule below should be used as a guide for anticipated course coverage this semester.

<b>Week</b>	<b>Beginning</b>	<b>Anticipated Text Coverage</b>	
Jan	18	Ch # 9-10	Gases and Intermolecular forces
Jan	25	Ch # 10-11	IMF and Solutions
Feb	1	Ch # 11-12	Solutions, Kinetics
Feb	8	Ch # 12	Kinetics <b><u>Exam #1 on 2/8, CH 9-11</u></b>
Feb	15	Ch # 13	Equilibrium
Feb	22	Ch # 14	Acid-Base
Feb	29	Ch # 14	Acid-Base <b><u>Exam #2 on 2/29, CH 12-13</u></b>
Mar	7	<b><i>SPRING BREAK</i></b>	
Mar	14	Ch # 14	Buffers/Titrations
Mar	21	Ch # 15	Solubility
Mar	28	Ch # 16	Thermo, Free Energy
April	4	Ch # 17	Electrochemistry <b><u>Exam #3 on 4/4, CH 14-15</u></b>
April	11	Ch # 17	Electrochemistry
April	18	Ch # 19	Transition Metals
April	25	Ch # 19	Transition Metals
May	4	<b>Final Exam</b>	<b>May 4, 11:30 am <u>CH 16, 17, 19, and Cumulative</u></b>

**Access Instructions for the Sapling Online Learning System:**

- Go to <http://www2.saplinglearning.com/> and click on "US Higher Ed" at the top right.
- (A) If you already have a Sapling Learning account, log in and then skip to step 3. (B) If you have Facebook account, you can use it to quickly create a Sapling Learning account. Click "Create an Account", then "Create my account through Facebook". You will be prompted to log into Facebook if you aren't already. Choose a username and password, then click "Link Account". You can then skip to step 3. (C) Otherwise, click "create account". Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.
- Find THIS course in the list and click the link. THIS course is **Moravian College-CHEM114-Spring 16-SHARI DUNHAM**. Note that you may need to expand the subject and term categories.
- To access the course you can either:
  - Enter a key code (that you can purchase in the Campus Bookstore) when prompted, or
  - Pay Sapling directly -- just select a payment option and follow the remaining instructions.
- If you have not had prior experience with Sapling Learning, it is strongly recommended that you work through the training materials. The activities, videos, and information pages will familiarize you with the Sapling Learning user environment and serve as tutorials for efficient balancing of equations, drawing of molecules, and other chemistry-specific tasks within the Sapling Learning answer modules. These training materials are already accessible in the Sapling Learning course.

Once you have registered and enrolled, you can log in at any time to complete (during the available window) or review your homework assignments. During sign up - and throughout the term - if you have any technical problems or grading issues, send an email to [support@saplinglearning.com](mailto:support@saplinglearning.com) explaining the issue. The Sapling support team is almost always faster and better able to resolve issues than your instructor.