

**Instructor:** KeriLyn C. Burrows, Ph.D. Office Phone: 610-861-1629  
Collier HOSCI Room 212 email: [burrowsk@moravian.edu](mailto:burrowsk@moravian.edu)  
Office Hours: Generally M/W/F 9:00 am to 12:00 noon and Th 11:15 am  
to 12:00 noon; exceptions will be posted on BlackBoard.  
*NOTE: Professor Burrows will generally not be on campus Tuesdays or after  
noon W/Th/F.*

**Course Meeting Information:**

- Class meetings M/W/F 7:50-8:40 am in Collier HOSCI 204 (Dana Lecture Hall) and Th 7:50-8:40 am (PA), 8:55-9:45 am (PB) OR 10:20-11:10 am (PF) in Collier HOSCI 202 (Mellon Lecture Hall)
- Laboratories: M 1:15-4:15 pm (LF), Tu 12:45-3:45 pm (LA), W 1:15-4:15 pm (LB), Th 8:30-11:30 am (LE), Th 12:45-3:45 pm (LC), OR F 1:15-4:15 pm (LD) in Collier HOSCI 207 (General Chemistry Lab). See separate lab syllabus which will be distributed at your first laboratory meeting. For all laboratory-related laboratory questions, please contact your laboratory instructor or the laboratory coordinator, George Fairchild, Ph. D. (Collier HOSCI 212, 610-861-1595, email: [fairchildg@moravian.edu](mailto:fairchildg@moravian.edu)).

**Course Description:**

This is the first semester of a two-semester introductory chemistry sequence that can count toward majors in the sciences as well as fulfill the LinC sciences requirement with laboratory (F4). In the first semester of General Chemistry, students will be introduced to the fundamental principles of chemistry as a quantitative science including inorganic reactions, thermochemistry, atomic theory and structure, and properties of gases. Some prior familiarity with basic material from High School Chemistry is helpful, although prior in-depth knowledge of topics is not expected.

**Course Materials:**

- Required text: “Chemistry” available free as pdf and web view from Openstax College ([openstaxcollege.org/I/B2SChem](https://openstaxcollege.org/I/B2SChem)). You may purchase an OPTIONAL hardcopy at our bookstore and on Amazon.com for ~\$55 (ISBN#978-1-938168-39-0). A solutions manual, also free, is “coming soon”!
- Sapling account: You are required to register with the Sapling Online Learning System and complete online homework assignments there throughout the semester. Instructions for student access to Sapling are printed *at the end of this document* and are 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. Prof. Burrows may request to see your Sapling homework journal at any time.
- Scientific calculator: You are required to have a personal scientific calculator, with exponential, log, and scientific notation functions (*or a slide rule!*), for in-class testing. Graphing and programming capabilities are not necessary. **MOBILE DEVICE APPS ARE NOT ACCEPTABLE FOR IN-CLASS USE.**

- BlackBoard site: You are required to enroll in the course page for **CHEM113A** at <http://blackboard.moravian.edu/>. Prof. Burrows will use this site to post important announcements, reminders and documents, as well as to send e-mails, throughout the semester. Please make sure that you enter your appropriate e-mail address. **Be sure not to enroll in CHEM113B!** Please access this site often!

**Learning Goals:**

Students who complete this course are expected to be able to:

- Identify simple inorganic salts and simple inorganic compounds by name and formulae
- Solve basic stoichiometric problems involving weight, solutions, and gases in any combination
- Write balanced chemical equations for simple reactions, including net ionic equations for reactions in aqueous solution
- Describe the atomic nature of matter including the components of the atom and the modern theories of their arrangement in the atom
- Predict the properties of atoms and explain these properties in terms of atomic interactions
- Qualitatively and quantitatively describe the basic heat transformations in chemical systems
- Draw Lewis structures for simple molecules from a chemical formula and predict the 3D geometry and hybridization around an atom
- Describe the bulk properties of matter and the intermolecular interactions that lead to these properties

**Attendance Policy:**

Your presence is expected at all course meetings (class, problem sessions, and laboratories). As a reminder, the college policy on attendance can be found in the student handbook. If you anticipate an unavoidable absence (due to an extenuating circumstance that is documented by an academic dean or health professional), please notify Prof. Burrows as soon as possible. You are responsible for providing documentation and making arrangements in a timely manner or else a grade of zero will be assigned for missed work. Laboratory attendance issues are addressed explicitly in the separate laboratory syllabus for this course and questions should be directed to the laboratory coordinator.

**Academic Honesty Policy:**

Please be familiar with the college policy on academic honesty<sup>1</sup> that applies to this course. Any work submitted in only your name is to be your work alone. You may discuss work with others on assignments, but merely copying answers is not acceptable.

**Policy on Cell Phones/Mobile Communication Devices:**

Please have the courtesy to turn off, not use, and not answer your cell phone during course meeting times<sup>2</sup>. Use of mobile devices may be recognized as disruptive classroom behavior<sup>3</sup> and responded to as such. For timed experiences (quizzes and exams) communication devices MUST be put away out of sight (in your backpack, NOT your pocket) or else a score of zero will be assigned by Prof. Burrows.

---

<sup>1</sup> <http://www.moravian.edu/studentLife/handbook/academic/academic2.html>

<sup>2</sup> If you are expecting an urgent call, please mute your phone and let Prof. Burrows know at the beginning of class.

<sup>3</sup> <http://www.moravian.edu/studentLife/handbook/academic/academic3.html>

**Getting Course Help:**

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

- Stop by Prof. Burrows' office with questions (office hours are a good time for this!)
- Attend chemistry help sessions (T/Th, 7-9pm, Collier HOSCI 207C "Superlab Commons")
- Contact Prof. Burrows by email or phone to make an appointment for review
- Request a peer tutor at Learning Services Academic Support Center in Monocacy Hall 103 (lower level, 610-861-1401).
- Students who wish to request accommodations in this class for a disability should contact Ms. Elaine Mara, Assistant Director of Learning Services for Academic and Disability Support in the lower level of Monocacy Hall (610-861-1401). Accommodations cannot be provided until authorization is received from the office of Learning Services.

**Grading:**

Your grade in this course does not depend on the grade of any other student in the class. Your letter grade will be determined by the total number of points you earn in this course, according to the following scale:

Total points	Letter Grade
930-1000	A
900-929	A-
870-899	B+
830-869	B
800-829	B-
770-799	C+

Total points	Letter Grade
730-769	C
700-729	C-
670-699	D+
630-669	D
600-629	D-
< 600	F

The total number of possible points in this course is *anticipated* to be as follows:

I.	Exams (3@100pts each)	300pts
II.	Optional Quizzes (10@10pts each)	*
III.	Online Homework (10@15pts each)	150pts
IV.	Learning Activities (15@10pts each)	150pts
V.	Final Exam	180pts
VI.	<u>Laboratory (11@20pts each)</u>	<u>220pts</u>
	Total for Course	1000pts

**I. Exams:** Three exams will be given in class during the semester. These exams will be administered during class time on September 23, October 23, and November 23. There will be no exceptions on exam times and no makeup exams are given.

**II. Quizzes\*:** Weekly (more or less) in-class quizzes are designed to impact your grade positively or not at all. These quizzes will be based on the assigned homework (see III below) and learning activities (see IV below). At the end of the semester, if your total quiz score is higher than your lowest exam score, then the low exam score will be replaced by the total quiz score when calculating your final course grade. This means that if you consistently perform well on weekly quizzes, you can drop a single poor semester exam grade.

**III. Homework:** Online homework will be assigned, given feedback, and scored through the Sapling Online Learning System (*see the access instructions at the end of this document*). Assignment due dates will be posted in Sapling and in BlackBoard. The work required to complete each Sapling problem should be recorded in your homework journal. Homework journals may be reviewed periodically throughout the semester.

**IV. Learning Activities:** Problem sessions and some additional class meetings for this course will be used for group-based learning activities. These activities are to be completed during the class meeting as a group and submitted at the end of the meeting for scoring by Prof. Burrows. Exercises for your review of the material are suggested at the end of each activity; these exercises will not be collected but their complete solutions can be found in the optional solutions manual that accompanies the text. No makeup activities are given.

**V. Final Exam:** A portion of this exam will be cumulative, and the entire exam (*Monday Dec 14 at 8:30 am in Collier 204*) will follow the college policy on final exams.<sup>4</sup>

**V. Laboratory:** Details are provided in a separate laboratory syllabus.

---

<sup>4</sup> <http://www.moravian.edu/studentLife/handbook/academic/academic.html>

**Dates to Note:**

**September 8** – Last Day to Add or Drop a Course

**October 9** – “Mid” Term

**November 6** – Last Day to Withdraw from a Course

**Tentative Reading/Lecture/Problem-Session Schedule:**

<b>Week of...</b>	<b>Chapter(s)</b>	<b>Lecture Topic(s)</b>	<b>Problem Session</b>
8/31	1	Matter and Measurement	Activity #1
9/7	2	Atoms, Molecules, and Ions	Activity #2
9/14	2/3	Chemical Substances & Solutions	Activity #3
9/21	3	Chemical Substances & Solutions	Activity #4
<b>*****First Hourly Exam, Wed 9/23 at 7:50 am in Collier 204*****</b>			
9/28	3/4	Classifying Reactions	Activity #5
10/5	4	Reactions & Stoichiometry	Activity #6
10/12	4	Stoichiometry	Activity #7
<i>NO LABS THIS WEEK: NO CLASS MONDAY 10/12</i>			
10/19	5	Thermochemistry	Activity #8
<b>*****Second Hourly Exam, Fri 10/23 at 7:50 am in Collier 204*****</b>			
10/26	5	Thermochemistry	Activity #9
11/2	6	Electronic Structure of Elements	Activity #10
11/9	6	Periodic Properties of Elements	Activity #11
11/16	7	Chemical Bonding	Activity #12
11/23	7	Chemical Bonding	Does not meet
<i>NO LABS THIS WEEK; CLASS MEETS MONDAY ONLY (EXAM)</i>			
<b>*****Third Hourly Exam, Mon 11/23 at 7:50am in Collier 204*****</b>			
11/30	8	Covalent Bonding Theories	Activity #13
12/7	9	Gases	Activity #14
<b>*****Final Exam: Mon 12/14 at 8:30am in Collier 204*****</b>			

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

1. Go to [saplinglearning.com](http://saplinglearning.com) and click on "US Higher Ed" at the top right.
2. (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.
3. Find *this* course in the list and click the link. This course is **Moravian College-CHEM113-Fall15-BURROWS**. Note that you may need to expand the subject and term categories. **Be sure that you do not select Moravian College-CHEM113-Fall15-DUNHAM**. You will not get credit for any work submitted to that course!
4. If the course requires a key code, you will be prompted to enter it.
5. If the course requires payment, select a payment option and follow the remaining instructions.
6. 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 efficiently balancing equations, drawing molecules, etc. within the Sapling Learning answer modules. These training materials are already accessible in your 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 Prof. Burrows.