

**Syllabus**  
**Integrated Chemical Principles**  
**CHE 124**  
**Fall 2014**

**Instructor Information:**

Name: J. Clinton Bailey II, Ph.D.  
Office: 416 Math, Chemistry, and Computer Science Building  
Telephone: 601.925.3338  
Email: bailey@mc.edu  
Website: <http://www.mc.edu/faculty/bailey>  
My website contains class announcements, current office hours, syllabi, and lecture notes.

**Period / Location:**

Lecture

Tuesday and Thursday; 12:00 –1:15 p.m., 210 Medical Science Building.

Laboratory

Monday, 1:30 – 4:00 p.m. OR 6:00 – 8:30 p.m., 402 Math, Chemistry and Computer Science Building (MCC 402)

**Catalog Description:**

**CHE 124** Integrated Chemical Principles  
**hours**

**Credit, 4 sem.**

Lecture three hours per week and laboratory three hours per week.

A one semester survey of the principles of chemistry illustrated by selected topics from inorganic, organic, and biochemistry. Topics discussed are those relevant to allied health related fields especially nursing. This course may not substitute for any other chemistry course.

**Rationale:** This course conveys an understanding of inorganic, organic and biological chemistry relevant to allied health majors.

**Methods of Instruction:** This course will follow a lecture/ discussion / work problems format. To gain the most from this course, each student should read the chapter and work the assigned problems prior to coming to lecture. You will find it helpful to bring your text to class.

**Recording Lectures:** Video recording of lectures is forbidden. Audio-only recording of lectures is allowed.

**Required Materials**

**Textbook:** General, Organic, and Biological Chemistry: An integrated Approach. 4<sup>th</sup> edition. Kenneth W. Raymond. **ISBN 978-1-118-35258-8**

Each student is expected to complete the reading assignment prior to attending class.

## **Sapling Online Homework:**

Students:

1. Go to <http://saplinglearning.com>
- 2a. If you already have a Sapling Learning account, log in then skip to step 3.
- 2b. If you have Facebook account, you can use it to quickly create a Sapling Learning account. Click ""create account"" located under the username box, then click ""Login with Facebook"". The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and timezone, accept the site policy agreement, and click ""Create my new account"". You can then skip to step 3.
- 2c. Otherwise, click ""create account"" located under the username box. 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 your course in the list (listed by school, course, and instructor) and click the link.
4. Select your payment options and follow the remaining instructions.

Once you have registered and enrolled, you can log in at any time to complete 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 more able (and faster) to resolve issues than your instructor.

**Scientific Calculator** with the ability to perform exponential and log functions (Use of a cell phone's calculator function is NOT allowed during class or exams). Bring the calculator to every class and lab.

**Safety Goggles** are required to be worn during all laboratory periods.

**Email Account:** All email communication to members of this class will be sent to their M.C. email account. Please acquire an account and learn to use it.

**Chemistry Peer Tutoring Center:** The Department of Chemistry and Biochemistry makes peer tutoring available at no cost to all students enrolled in a Chemistry class at Mississippi College. It is up to you to take advantage of this (valuable) service.

The tutoring center is staffed by top, upper-level chemistry majors and minors.

These students will help you understand chemistry concepts, and can help you improve your problem solving skills. The tutors are instructed NOT to work the problem for you, but to help you to understand how to work the problem.

Tutoring hours are posted on <http://www.mc.edu/academics/departments/chemistry/tutoring/> and are prominently displayed on flyers on bulletin boards in the chemistry department. Tutoring hours may also be available by contacting Mrs. Tina Reeves in the Chemistry Department Office (MCC 415) by phone, 601.925.3223 or email, [TReeves@mc.edu](mailto:TReeves@mc.edu).

## **Learning Objectives:**

- \* Identify and interconvert metric and English units of measure.
- \* Explain the atomic concept and its relationship to elements. Apply atomic number and atomic weight.
- \* State how atoms interact to form compounds.
- \* Identify, classify and name basic organic compounds
- \* Explain the three states of matter (gases, liquids, and solids)
- \* Explain reactions (...fisssss....BOOM) of the types of functional groups.
- \* Explain the function of lipids and proteins in the cell membrane
- \* Identify acids, bases, and explain equilibrium
- \* Identify types of carbohydrates
- \* Identify types of peptides and proteins. Explain how proteins function as enzymes
- \* Identify types and function of nucleic acids
- \* Explain the function of metabolism

## **Attendance:**

Class attendance is expected. The instructor will follow the established University attendance policy as described in current Undergraduate Catalog

**Absence from Class:** If you are absent from class or laboratory, it is your responsibility to obtain missed notes / assignments from another student.

**Absence from an Exam:** Attendance for every exam is mandatory. A student that is absent from an exam will receive a grade of zero for that exam. Make up exams may be administered at the professor's discretion.

## **Withdrawing from this Course:**

The last day to withdraw from this course without a grade appearing on the transcript is listed on the College Academic Calendar (<http://www.mc.edu/offices/registrar/calendar/full-calendars/>). Withdrawal before this date will result in a W listed on the transcript.

**Tuition Refund:** To receive a 100% refund of tuition, a student must withdraw from this course by 5:00 p.m. on the date listed on the College Academic Calendar. Following this date, the tuition refund is 0%.

## **Academic Honesty:**

You, as a student at Mississippi College and member of a larger academic community, are expected to be honest. The instructor will not tolerate participation in cheating or plagiarism and will deal harshly with suspected acts of either. The University policy on Academic Honesty (Policy 2.19) as explained in the current edition of the Student Handbook, THE TOMAHAWK, (<http://www.mc.edu/student-life/student-handbook/>) will be followed.

**NOTE ABOUT CALCULATORS:** The memory function of your scientific calculator shall not be used to store formulas, equations, or any information that if written on paper would be called a "cheat sheet".

## **Class Disruption:**

In the interest of providing everyone an environment conducive to learning, please refrain from disrupting class. Students that disrupt class may be asked to leave the classroom and may receive a zero for that day's assignment. Tardiness and noise from a cell phone are two commonly encountered disruptions that are easy to avoid.

**Tardiness:** Be on time, class begins at 12:00 Noon and Laboratory begins at either 1:30 or 6:00 p.m.

**Cell Phone:** Cell phones should be TURNED OFF and STORED (in a book bag, purse, or pocket) during the class period. The desktop, your hand or lap are NOT appropriate storage locations for a cell phone during class.

## **Evaluation:**

**Success:** The key to success in this course is consistent, methodical study beginning the first week of class. "Study each day as if the test is tomorrow." Work ALL the assigned problems.

**Grading:** Student progress in mastering course requirements is measured by three unit exams (100 pts. each), a weekly quiz (10 pts. each), lab grade (200 pts.) and a comprehensive final exam (100 pts.), as described below.

4 exams (@ 100 pts. each)	= 400 pts.
Quiz grade (10 @ 10 pts. each )	= 100 pts.
Sapling Homework (100 pts.)	= 100 pts.
1 comprehensive final exam (100 pts.)	= 100 pts.
<u>Laboratory</u>	<u>= 200 pts.</u>
<b>TOTAL</b>	<b>= 900 pts.</b>

**Weekly Quiz:** To encourage regular study, a ten point weekly quiz will be administered during the first 5 - 10 minutes of class. The quiz will contain questions about course material covered since the previous quiz. A student's highest ten weekly quiz grades will be used to calculate the "Quiz grade" (see above). Normally, 12-14 quizzes are administered in a semester. "Make-up" quizzes are NOT given.

**Sapling Homework:** Homework grade will be based on the percentage of problems worked correctly during the semester.

**Exam Format:** Exams (and quizzes) may contain multiple choice, matching, fill in the blank, true or false, short answer, or discussion type questions.

**Make-up Exam:** Make-up exams will NOT be given except in extreme circumstances. (E.g. death or hospitalization of an immediate family member, or your hospitalization). Students involved in university-sanctioned activities (e.g. athletics, choir, etc.) must arrange to take the exam PRIOR to the regular exam date, and before leaving for the event. Administration of a make-up exam is at the discretion of the instructor.

**Electronic devices:** Use or possession of an unauthorized electronic device (computer, cell phone, calculator etc.) during an exam or quiz will be considered cheating. During an exam, please securely store your electronic devices in a zipped pocket of a book bag or purse.

**Scale:** A student's letter grade is based on total possible points earned during the semester using the scale given below.

<b>Integrated Chemical Principles CHE 124</b>		
<b>Percentage</b>	<b>Points</b>	<b>Grade</b>
100 – 90.0 %	800 - 720	A
89.9 – 80.0 %	719 – 640	B
79.9 – 70.0 %	639 - 560	C
69.9 – 60.0 %	559 – 480	D
< 59.9 %	479 - 0	F

**Extra credit** is NOT offered in this course.

**Distribution of Final Grade:** Since a student's grade is available on Banner Web soon after the semester ends, course grades will NOT be posted or distributed. Email inquiries concerning grades should originate from your M.C. email account.

**Special Accommodations:** In order for a student to receive disability accommodations under Section 504 of the Americans with Disabilities Act, he or she must schedule an individual meeting with the Director of Student Counseling Services **immediately upon recognition of their disability** (if their disability is known they must come in before the semester begins or make an appointment **immediately** upon receipt of their syllabi for the new semester). The student must bring with them written documentation from a medical physician and/or licensed clinician that verifies their disability. If the student has received prior accommodations, they must bring written documentation of those accommodations (example Individualized Education Plan from the school system). Documentation must be current (**within 3 years**). The student must meet with SCS **face-to face** and also attend two (2) additional follow up meetings (one mid semester before or after midterm examinations and the last one at the end of the semester). Please note that the student may also schedule additional meetings as needed for support through SCS as they work with their professor throughout the semester. Note: Students must come in **each semester** to complete their Individualized Accommodation Plan (example: MC student completes fall semester IAP plan and even if student is a continuing student for the spring semester they must come in again to complete their spring semester IAP plan).

Student Counseling Services is located in Alumni Hall Room #4 or they may be contacted via email at [christia@mc.edu](mailto:christia@mc.edu) or [rward@mc.edu](mailto:rward@mc.edu). You may also reach them by phone at **601-925-7790**.

The instructor reserves the right to change this syllabus at any time during the semester, to meet the needs of the class. Last updated on 15 August 2014

**Integrated Chemical Principles**  
**CHE 124**  
**Tentative Lecture AND Laboratory Schedule**  
 Fall 2014

DATE	DAY	QUIZ / EXAM Pts.	LAB Pts.	COURSE OUTLINE
August 28	R			OUTLINE OF EXAM I CONTENTS Ch. 1 Science and Measurements Ch. 2 Atoms and Elements Ch. 3 Compounds
<b>September 1</b>	<b>M</b>			<b>No Lab – Holiday – Labor Day</b>
2	T	10		QUIZ
4	R			
8	M		20	LAB 1: Introduction and Lab Safety Safety Video Significant Figures
9	T	10		QUIZ
11	R			
15	M		20	LAB 2 Mass, Volume and Density
16	T	10		QUIZ
<b>18</b>	<b>R</b>	<b>100</b>		<b>EXAM I (Ch. 1, 2,3)</b>
22	M		20	LAB 3: Energy, Heat and Temperature
23	T	10		QUIZ OUTLINE OF EXAM II CONTENTS Ch. 4 An Introduction to Organic Molecules Ch. 5 Reactions Ch. 6 Gases, Solutions, Colloids, and Suspensions
25	R			
29	M		20	LAB 4: Geometry of Organic Molecules
30	T	10		QUIZ
October 2	R			
<b>6</b>	<b>M</b>			<b>No Lab – Holiday – Fall Break</b>
<b>7</b>	<b>T</b>			<b>No Class – Holiday – Fall Break</b>
9	R			
13	M		15	LAB 5: Gram and Mole Relationships of Magnesium Compounds Gas Laws
14	T	10		QUIZ
16	R			
20	M		15	LAB 6: Solutions
21	T	10		QUIZ
<b>23</b>	<b>R</b>	<b>100</b>		<b>EXAM II (Ch. 4, 5, and 6)</b>

27	M		15	LAB 7: Gas Laws
28	T	10		QUIZ Ch. 7: Acids, Bases and Equilibrium Ch. 8 Carboxylic Acids, Phenols, and Amines Ch. 9 Alcohols, Ethers, Aldehydes, and Ketones.
30	R			
<b>31 ###</b>	<b>Friday</b>			<b>LAST DAY TO DROP</b>
November 3	M		15	LAB 8: Acids and Bases: Properties I
4	T	10		QUIZ
6	R			
10	M		15	LAB 9: Acids and Bases: Properties II
11	T	10		QUIZ
<b>13</b>	<b>R</b>			<b>EXAM III (Ch 7, 8, 9)</b>
17	M		15	LAB 10: Synthesis of Soap
18	T	10		QUIZ Ch. 10 Carbohydrates Ch. 11 Lipids and Membranes Ch. 12 Proteins Ch. 13 Nucleic Acids
20	R			
24	M		15	LAB 11: Synthesis of Aspirin
25	T	10		QUIZ
<b>27</b>	<b>R</b>			<b>No Class – Holiday Thanksgiving</b>
December 1	M		15	LAB 12: TBA
2	T	10		QUIZ
4	R			
<b>8</b>	<b>M</b>	<b>100</b>		<b>EXAM IV (Ch. 10, 11, 12, 13)</b>
9	T	10		
11	R			NO CLASS – STUDY DAY
<b>13</b>	<b>Saturday</b>	<b>100</b>		<b>COMPREHENSIVE FINAL EXAM 12:00 (Noon) – 3:00 p.m.</b>

###Friday, 31 October 2014, LAST DAY TO DROP THIS COURSE.

Textbook: General, Organic, and Biological Chemistry: An integrated Approach. 4<sup>th</sup> edition.  
Kenneth W. Raymond.

The instructor reserves the right to change this schedule, to meet the needs of the class, at any time during the semester.

Last Updated: 15 August 2014