

**INDIAN RIVER STATE COLLEGE  
INTRODUCTION TO CHEMISTRY  
FALL SEMESTER 2014**

**Course Prefix:** CHM 1020

**Instructor:** Mr. Michael P. Jones

**Office:** Science Center, N-307

**Telephone:** (772) 462-7855

**E-mail Address:** mjones@irsc.edu or angel

**Office Hours:** Available During Posted Hours

**Additional Hours Available by Appointment**

**Lecture:** TR 11:00-12:15 P.M.

**Required Text:** *Introductory Chemistry* by Charles Corwin, 7<sup>th</sup> edition

**Additional Requirement:** Scientific Calculator; must have scientific notation (EE or EXP key) and common log (LOG key) and natural log (LN key) capability.

**Course Description:** CHM 1020 is an introductory chemistry course and therefore will cover basic chemical concepts that are fundamental to all areas of chemistry. These concepts include the use and manipulation of measurements and units common to chemistry, the structure of atoms and their general properties, and the bonding of atoms to form molecules. How molecules interact with one another as well as the role energy plays in chemical reactions will also be covered. Finally an introduction to gases, solutions and acid/base chemistry will also be presented. CHM 1020 is designed for students who have had no prior chemistry or are non-science majors. Please note that this course is not considered to be adequate preparation for CHM 2210 (Organic Chemistry). Persons who wish to take CHM 2210 should take the CHM 1045-1046 series.

**Learning Outcome:** Upon completion of this course, the student should be able to apply critical thinking through problem solving in chemistry

**Course Objectives:** After completion of this course, the student should be able to:

- Classify matter based on its properties and states
- Differentiate between characteristic properties of matter
- Use different systems of measurement and be able to convert between the systems
- Identify elements and compounds by their formulas
- Identify and utilize the various temperature scales
- Describe the structure of atoms
- Use the periodic table to classify the elements as well as determine various properties and characteristics of the elements
- Describe the basic properties of acids and bases
- Write balanced chemical equations
- Classify chemical reactions as combustion, combination, decomposition, single replacement or double replacement
- Perform stoichiometric calculations involving, elements, compounds, and chemical reactions
- Describe the behavior of gases in terms of the gas laws
- Describe the bonding and structure of compounds

**Attendance:** You are **responsible** for all material covered in lecture. For this reason attendance at all lectures is expected. Absences will lower your comprehension of the material and could be a major contributor to a difficulty with the course material. Attendance will be taken during each class period. Attendance is mandatory if indicated by your financial aid or granting agency.

**Class Conduct:** Classes will begin and end on time. To minimize disruptions to others, students must be on time and plan to stay until class is dismissed. A student will be allowed three tardies. Each subsequent time a student is late will result in a three percentage point deduction from the next exam.

**Cell Phone usage:** The use of cell phones is prohibited during class at IRSC. All cell phones must be on silent or off during the class period. Any student who uses a cell phone to make or answer a call, or send text messages or emails, **other than IRSC emergency messages during class time** may be asked to leave and may be considered absent for that class. No student has the right to disturb the teaching and learning process.

**Cheating/Plagiarism:** Anyone caught cheating or plagiarizing will get an immediate "F" for the course and will be reported to the Vice President of Student Affairs.

**Withdrawal from the Course:** The last day to withdraw from the course with a “W” is November 17. After this date, an instructor’s will only be given for extraordinary circumstances (illness, military commitment, etc.). Please note that **a failing grade is not considered sufficient reason for an instructor’s withdrawal.**

**Grades:** Determination of the final grade for the course will be based on hour exams and a comprehensive a final exam. The grade weighed distribution will be as follows:

Hour Exams (best 3)	75%
Final Exam (comprehensive)	25%

The final letter grade will be based on the following percentage scale:

A	90-100
B	89-80
C	70-79
D	60-69
F	<60

**Hour Exams:** There will be four one-hour exams given as shown on the schedule. The lowest of the four exams will be dropped. There will be no make-up exams. **Note: The dropped score is in case you get ill on the test day or are unable to take the exam for any other reason. Any student who is more than 10 minutes for the exam will not be allowed to take the exam.**

**Homework Problems:** At the end of each chapter I will recommend that you work certain problems. These problems are not collected or graded.

**Final Exam:** A comprehensive, two-hour final exam will be given covering all lecture material. **The final exam cannot be made up.**

**Accessibility Statement:** In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act of 1990, professional disability specialists and support staff at the Student Disability Services (SDS) facilitate a comprehensive range of disabilities. IRSC offers many disability resources at on-campus labs. Students who wish to request an accommodation for a documented disability should contact the SDS at 772-462-7782 or 772-462-7808.

### **Non-Discrimination and Non-Harassment Policy**

Indian River State College is committed to maintaining a fair and respectful employment and educational environment. In accordance with federal, state, and local equal opportunity laws, Indian River State College prohibits discrimination on the basis of race, color, national origin, ethnicity, sex, religion, age, disability, sexual orientation, marital orientation, marital status, veteran status, or genetic information.

## TENTATIVE SCHEDULE

Chapter	Topic
1	Introduction/Prerequisite Science Skills
2	The Metric System
3	Matter and Energy
4	Models of the Atom
5	The Periodic Table
6	Language of Chemistry
7	Chemical Reactions
8	The Mole concept
9	Chemical Equation Calculation
10	Gases
12	Chemical Bonding
13	Solutions
14	Acids and Bases
18	Nuclear Chemistry
19	Organic Chemistry

## EXAM SCHEDULE

<u>Exam</u>	<u>Date</u>
Exam #1	Sept 25
Exam #2	Oct 16
Exam #3	Nov 13
Exam #4	Dec 2
Final Exam: Comprehensive	Dec 11, 2014

## SUGGESTED HOMEWORK PROBLEMS

<b>Chapter</b>	<b>Exercises</b>
1	5, 7, 9, 11, 13, 15  Prerequisite Science Skills  1, 3, 5, 9, 11, 13, 15, 17, 19, 21, 23, 25, 29, 31, 33, 35, 37, 39, 41, 45, 47
2	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 35, 37, 41, 43, 45, 47, 49, 51, 59, 61, 63, 67, 69, 71
3	1, 3, 5, 7, 9, 13, 15, 17, 19, 21, 23, 25, 27, 29, 33, 35, 37, 39, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65
4	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 37, 39, 41, 43, 45, 47, 67, 69, 71
5	1, 3, 5, 7, 9, 11, 13, 17, 19, 21, 23, 25, 27, 29, 31, 45, 47, 49, 51, 57, 59, 61, 63, 65, 67, 69, 71
6	1, 3, 5, 7, 13, 19, 21, 23, 25, 27, 31, 45, 47, 49
7	1, 3, 5, 7, 9, 17, 19, 21, 23
8	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 23, 27, 29, 31, 33, 41, 43
9	1, 3, 5, 7, 9, 11, 19, 21, 23, 25, 37, 39, 41, 43
10	1, 3, 9, 11, 13, 17, 19, 23, 25, 29, 31, 33, 35, 63, 65
12	1, 3, 5, 7, 9, 11, 13, 29, 33, 35, 37, 43, 47, 49, 53, 55, 57, 67
13	1, 7, 9, 11, 13, 15, 17, 19, 25, 27, 33, 35, 37, 39, 43, 53
14	1, 3, 5, 7, 9, 11, 21, 23, 25, 49, 51, 53, 55, 61, 63, 65

18

1, 7, 9, 11, 21, 23, 33, 35, 37, 39, 41, 55