

# CHEMISTRY 131 and 131A (CHM 131, Sec. D01/CHM 131A, Sec. D01)

Fall Semester 2016

## INTRODUCTION TO CHEMISTRY

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**CFCC General Education Competencies will incorporate all or some of the following:**

	<b>Computer Skills</b>	<b>X</b>	<b>Quantitative Skills</b>
<b>X</b>	<b>Critical Thinking</b>	<b>X</b>	<b>Written Communication</b>
	<b>Global Awareness</b>	<b>X</b>	<b>Understanding Scientific Concepts &amp; Applications</b>
	<b>Oral Communication</b>		

**This course emphasizes the following general education competency:**

**Scientific Reasoning:** Students engage in scientific reasoning when they use fundamental scientific concepts and theories to analyze problems, observations, and/or experiments in the life and physical sciences. Students demonstrate scientific reasoning when they:

- Apply appropriate scientific concepts, theories, and language to problems, observations, or experiments
- Utilize scientific data to analyze problems, observations, or experiments
- Apply scientific observations, calculations, and/or measurements to problems or experiments
- Articulate conclusions about problems, observations, or experiments using appropriate scientific concepts and data

**Critical Thinking:** Critical thinking is the deliberate process of questioning, evaluating, and responding to problems, scenarios, and arguments in order to reach sound solutions, decisions, and positions. Students demonstrate critical thinking when they:

- Ask pertinent questions that clarify and focus a problem, scenario, or argument
- Evaluate the quantity, quality, and usefulness of information
- Articulate a sound solution, decision, or position based on appropriate standards of reasoning
- Monitor and reflect upon the quality and fairness of their reasoning

**Texts:** *CHEMISTRY: General, Organic & Biological*, Timberlake, Fourth Custom Edition for CFCC; Benjamin Cummings, publisher; and associated **Laboratory Manual**.

**Course Description: CHM 131 – Introduction to Chemistry.**

This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acid and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields.

**CHM 131A – Intro to Chemistry Lab.** This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131.

**Class hours per week:** Lecture 3; Lab 3.     **Semester hour credit:** 4

**Prerequisites:**

1. Completion of one of the following:

- Grade of “C” or better in RED-090
- Grade of “C” or better in ENG-095
- Grade of “C” or better in DRE-098
- Required Placement Test Score(s)

**AND**

2. Grade of “C” or better in MAT-060 **OR**  
Grade of “C” or better in DMA-010, DMA-020, and DMA-030

**AND**

3. Grade of “C” or better in MAT-070 or MAT-080 or MAT-090 or MAT-096 **OR**  
Grade of “C” or better in DMA-040 and DMA-050 **OR**  
Successful completion of MAT-129 or MAT-121 or MAT-161 or MAT-171 or MAT-175

**Corequisite:** CHM 131A

**Classrooms:** N-309 Lecture  
N-308 Lab

**Course Objectives:** Upon completion, students should be able to demonstrate a basic understanding of chemistry and their interrelationships of the following topics:

- ❑ Measurement
- ❑ Energy and Matter
- ❑ Atoms and Elements
- ❑ Nuclear Chemistry
- ❑ Compounds and Their Bonds
- ❑ Chemical Reactions and Quantities
- ❑ Gases

- Solutions
- Chemical Equilibrium
- Acids and Bases

<b>Grade Scale:</b> 100 – 92	A = 4.00	W – Withdrew from class before 60%
91 – 84	B = 3.00	completion point)
83 – 76	C = 2.00	I – Incomplete (paperwork required)
75 – 68	D = 1.00	
1 - 67	F = 0.00	

## GENERAL COURSE REQUIREMENTS AND CLASS POLICY STATEMENTS

### Course Grade Determined as Follows:

**Exams (60%)** Five exams will be given, covering lecture material, homework, quizzes, and assigned problems from the end of each chapter. Exams will consist of mostly problems to be worked, with some short answer questions and multiple choice questions. The Final Exam grade can be substituted for one exam grade

**Final Exam (20%)** A cumulative final will be taken by everyone.

**Class Participation (4%)** Covers conduct and participation in class activities.

**Laboratory (16%)** Lab work will consist of learning lab techniques and procedures, and written work. It is also considered an exercise in **READING** and **FOLLOWING DIRECTIONS**. A work sheet will be handed in at the completion of each lab. It will be graded on completion and accuracy of the lab work. Missed labs will be made up within one week, and will be made up by completing an assignment from the lab book or textbook. One lab can be missed (and made up) without effect on lab grade. **Missing of more than one lab will result in a 10% reduction of lab grade if made up, and a 20% reduction in lab grade if not made up.**

**Safety goggles must be worn in lab when using flame, heat, chemicals and possible projectiles. Closed toe shoes must be worn in lab.**

**Text Coverage:** Chapters 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11.

**Exam Procedures:** All students are to do their own work on exams. You may bring a calculator, the instructor will **not** supply you with one. Cell phones may **not** be used as calculators. No other electronic equipment allowed. Calculators may **not** be shared. Periodic Tables and other tables of information will be supplied by the instructor.

**Missed Exams:** If you know you are going to miss an exam, let me know in advance and arrangements will be made for you to take it ahead of time. Other missed exams will result in the Final Exam grade being used in place of the missed exam. This procedure can be used ONCE a semester, additional exam misses will result in a “0” for the exam grade.

**Missed Classes:** If you miss a class, get the notes from a classmate. You are responsible for all material covered in the missed class.

**Attendance Policy:** Attendance will be taken at each class period. **An absence is any occasion you are not in class, regardless of reason.** Tardiness is not penalized but the late student is responsible for informing the instructor after class of his/her presence in class. Food/drink is not allowed into the classrooms or labs at any time.

**Contingency Plan:** If there is an emergency and the instructor or an appropriate substitute does not meet with the class, wait fifteen minutes. Then, everyone in the class should sign a roll sheet and designate someone to take it to the Science Department Chair or Secretary in U-436.

**Accommodation of Special Needs Based on Disability:** Any student who requests classroom accommodations because of a disability must present documentation to verify his/her disability. This documentation must be furnished to the Disabilities Service Coordinator, and this should be provided prior to requesting accommodation by the instructor. On a confidential basis, the student, disabilities services and the instructor will determine the appropriate accommodations following documentation. Accommodations will be provided in a manner that is consistent with the objectives, outcomes, and academic standards of the course. Absences must not exceed class attendance policy.

### **Academic Honesty/Plagiarism**

Please see Student Catalog for CFCC policy.

Reminder, plagiarism is using as your own the words or ideas of another, whether written or oral. When you use material from a source, you must quote or paraphrase accurately and properly cite the information. Failure to do so is considered plagiarism. Examples of plagiarism include word-for-word copying without correctly indicating that you are quoting, inaccurate quoting and paraphrasing, and incomplete or missing documentation. Purchasing a paper or copying someone else’s work and submitting it as your own are also plagiarism. Any misrepresentation of the source in your writing or speaking would constitute a form of plagiarism.

Whether intentional or unintentional, plagiarism is not acceptable and will result in the student being assigned a grade of zero for the assignment.

### **Expectations for Interaction**

Students will be held to the highest standards of language and content in all interaction, whether online or in person. Abusive and derogatory language, actions, or content will not be tolerated. This non-discrimination policy

includes face-to-face interactions, email, online discussions and all course related content and materials. To learn more about online interaction, please see “The Core Rules of Netiquette”, from the book Netiquette by Virginia Shea at: [http:// www.albion.com/netiquette/corerules.html](http://www.albion.com/netiquette/corerules.html)

**myCFCC** is your student web portal - there you can access your class websites, email, and WebAdvisor (official academic info such as grades, transcripts, schedules, etc). Your official CFCC-provided email account is to be used for all e-mail correspondence with your instructors and CFCC staff. Some information from CFCC will ONLY be emailed to this address, and not sent through postal mail, so it is very important that you check this account. To access this account, visit the myCFCC portal - there is a link to the portal near the top of the CFCC.edu website. Login and click the Email link. Your username is part of your email address: [user@mail.cfcc.edu](mailto:user@mail.cfcc.edu). (Note if you've had a CFCC email address in the past, this one may differ because we've changed 'email' to 'mail' in the address.) This email account is provided to you as long as you are enrolled in classes (you can take the summer off), and may be used for personal email as well as academic email. The class websites linked from the portal are automatically created for every class - it is up to the instructors to decide whether and how to use them. Even if they are not used, you can send an email to your instructor by clicking the Send Email link on your class homepage.

### ***IT Student HelpDesk***

The IT Services Student Helpdesk provides first-level technical support to all students of Cape Fear Community College. They are available to assist students with basic computer and technical needs, including logging into Blackboard, myCFCC and WebAdvisor.

More information, including Hours, Location, and Contact Information is available at: <http://www2.cfcc.edu/studenthelpdesk/>

### ***Blackboard Help***

Answers to common Blackboard questions can be found at <http://www2.cfcc.edu/online/bb-faq> or Ask Ray.

### ***Science Learning Lab N-407***

The Science Learning Lab is located in N-407. Tutors are available for all Biology, Chemistry, Geology and Physics courses. You must have your instructor sign a form to verify that you are enrolled in a Science course. The form is available in N-407.

### **Learning Resource Center (LRC)**

The LRC is located in the CFCC library and can be found [online at http://cfcc.edu/learninglab](http://cfcc.edu/learninglab). The LRC provides writing assistance, computer competency skills and tutoring.

### ***Learning Resource Center (Library)***

The CFCC Learning Resource Center (Library) provides students with the following resources: Books/Materials, Course Reserves, Computer/Internet Access, Online Databases/Journals, Group Study Space, and a Quiet Study Space.

The Learning Resource Center (Library) is located on the 2nd Floor of the L-Building (Downtown Campus) or on the 1st Floor of the McKeithan Center (North Campus) and can be found online at <http://cfcc.edu/lrc>.

***Additional Student Support and Academic Services***

For a list of CFCC Student Support and Academic Services, please visit <http://www2.cfcc.edu/online/student-support/>.

***Tobacco use is prohibited on all CFCC property.***

***\*\*\*The instructor reserves the right, acting within the policies and procedures of Cape Fear Community College, to make changes, adjustments, additions, and deletions in course content, syllabus, or instructional technique, without notice or obligations.***