CHEMISTRY 143 SYLLABUS SPRING 2018

INTRODUCTORY CHEMISTRY

Instructor: Dr. Joseph Caddell Office: SCC 342

Lecture: Online

Laboratory: § 6666 Mondays 8:45 – 11:50 SCC 313

§ 6667 Mondays 1:30 – 4:35 SCC 313

§ 6681 Tuesdays 1:30 – 4:35 SCC 313

Final Exam: § 6666 Monday 4/23/2018 8:00 – 9:30 SCC 313

§ 6667 Monday 4/23/2018 1:30 – 3:00 SCC 313

§ 6681 Tuesday 4/24/2018 1:30 – 3:00 SCC 313

Office Hours: Mon. & Weds. 7:30 – 8:30, Tues. & Thurs. 8:00 – 9:00, Fri. 8:30 – 9:30

Recommended Materials

Textbook – CATALYST the Pearson Custom Library for Chemistry CHEMISTRY 143 Modesto Junior College or a similar text.

Required Materials

Laboratory – Paper Towels, Goggles, Printer Paper (if you want to use the printer in the chemistry area)

You should also have reliable internet access, or the ability to use the computers on campus for watching lectures, taking online quizzes, and submitting lab reports.

Grading

Midterm Exams (10) – 70% (7% each, I drop the lowest exam)

Online Quizzes – 5% (I drop your five lowest scores)

Final Exam – 10%

Lab – 15% (I drop your one lowest score)

There will be 11 exams given, only 10 exam scores count. After dropping your lowest exam of the 11, I will replace your next lowest exam score, if and only if, you take all midterms, by your percentage score on the final exam if it is higher than your lowest exam score. I will also drop your 5 lowest quiz scores and your 1 lowest lab score.

Grading Scheme

A = 90% - 100%

B = 80% - 89%

C = 60% - 79%

D = 50% - 59%

F = 0 – 49%

Assignments may include handouts, web assignments, textbook problems, and in class assignments. It is the student's responsibility to make sure that they have turned in all assignments on time.

Anyone who misses three (3) or more labs will receive an "F" for the course, regardless of scores on exams and quizzes.

Attendance/Drop Policy

Any student that misses any class meeting before the census date (5/30/17) without letting me know ahead of time may be dropped as a no-show. However, do not count on me to drop you. If you plan to drop it is your responsibility to do so. If you are given an add code by me you must use it before the next class meeting or you will not be allowed in the class. Any student who misses an exam or laboratory without notifying me may be dropped from the course.

Academic Dishonesty

If you are caught cheating, plagiarizing, forging, or violating any part of the MJC student conduct code on any part of this course you will receive a zero (0) for the assignment you violated the MJC student conduct code on. I will also report the incident to the dean of the division as well as the dean of students. You may not make up any work you violated the MJC student conduct code on. If you are caught violating the MJC student conduct code on a midterm I will not replace that score with your score on the final exam and I will not drop that score. Violating the MJC student code includes, but is not limited to copying work from anyone, falsifying a laboratory report, using a cell phone (for any purpose) during an exam, having or using any source of information not specifically allowed by me during any exam, turning in work that you did not do, looking at someone else's paper during an exam, changing an answer on your exam after it has been turned in, or communicating in any way with anyone other than me during an exam.

Students With Disabilities

If you have any disability that needs accommodation you must let me know within the first week of class or when you first find out. Once you let me know I will gladly do everything I can to assist you, as long as you can still complete the requirements for the class.

Late/Missed Assignments

Make-up exams will not be given. If you miss an exam your score on that exam is a zero. Our one lowest exam score will be dropped, and the next lowest after that will be replaced by your score on the final if your score on the final is higher.

Exams

Exams will be given at the beginning of each lab period that has an exam scheduled.

If you are late you will not be given extra time, so be sure to be on time! There are no make-up exams.

Each exam will have about 10 to 15 questions, will be multiple choice, and will be comprehensive. Most of the questions will come from the new material for that week, but there will be some from the previous topics also. You will need a scantron 882 for each exam.

Lab Work

There are no make up labs. If you miss a lab your score for that lab is a zero. Anyone who misses three (3) or more labs will receive an "F" for the course, regardless of scores on exams and homework. I will drop your one lowest lab score. If you are more than 5 minutes late for a lab you will not be allowed to do that lab. Lab reports are due on the date given for that lab report in Canvas. No unauthorized experiments are allowed. You must follow the safety rules (see handout) at all times. Failure to do so may result in you being told to leave the laboratory. If this happens your grade for that lab will be a zero.

If the laboratory is not clean including the back counter, balances, and lids on all chemicals, at the end of the laboratory period, everyone in that laboratory will have 30 percent deducted from their grade for that experiment.

Cell Phones

No cell phones are allowed out during exams. Violation of this rule will be a violation of the MJC student code of conduct, no exceptions.

Success in Chemistry

Here is a link to an article in Time magazine about how to become an expert at anything. This is exactly what you should be doing this semester! To summarize the article:

1.) Make a long-term commitment to it. If you come into this class with the attitude that you just want to get through it, you are much less likely to do that than if you come here with the attitude that this is part of your life-long career. Even when putting the same amount of time in, those who make a long-term commitment are 400% more likely to succeed!

2.) Start with what's important. Do an 80-20 analysis and ask yourself, "Which 20% of these things I need to learn will get me 80% of the results that I want?" This means focus on the homework!

3.) Train like you fight. Okay, so on your path to expertise you casually review your notes again and everything feels really familiar. You're really learning this stuff.

No, actually. No, you're not…

Work out those homework problems, with units and everything! Write it down. Do it again. Repeat!

4.) Difficulty is desirable. Reviewing material is one of the most popular forms of learning. Guess what? It's also one of the least effective.

Researchers call this "the fluency illusion." Just because it's easy to remember right now doesn't mean it will stay that way. "Desirable difficulty" means that the harder you work trying to retrieve something from memory, the better you learn.

Don't merely reread stuff. Practice like a medical student and quiz yourself with flashcards.

From Make It Stick – The Science of Successful Learning

"Learning is deeper and more durable when it's effortful. Learning that's easy is like writing in sand, here today and gone tomorrow. We are poor judges of when we are learning well and when we're not. When the going is harder and slower and it doesn't feel productive, we are drawn to strategies that feel more fruitful, unaware that the gains from these strategies are often temporary. Rereading text and massed practice of a skill

or new knowledge are by far the preferred study strategies of learners of all stripes, but they're also among the least productive."

From The Talent Code

"You need to struggle. We learn when we're in our discomfort zone. When you're struggling, that's when you're getting smarter. The more time you spend there, the faster you learn. It's better to spend a very, very high quality ten minutes, or even ten seconds, than it is to spend a mediocre hour."

5.) Study Less. Test More!

According to Dan Coyle

"Our brains evolved to learn by doing things, not by hearing about them. This is one of the reasons that, for a lot of skills, it's much better to spend about two thirds of your time testing yourself on it rather than absorbing it. There's a rule of two thirds. If you want to, say, memorize a passage, it's better to spend 30 percent of your time reading it, and the other 70 percent of your time testing yourself on that knowledge."

We usually study *for* a test. That's a mistake. You want to be testing yourself long before the main event. Because testing is actually a type of studying. In fact, *testing is actually a better form of studying than studying*.

From How We Learn

"Studying a prose passage for five or ten minutes, then turning the page over to recite what you can without looking, isn't only practice. It's a test, and Gates had shown that that self-exam had a profound effect on final performance. That is to say: Testing is studying, of a different and powerful kind."

COURSE DESCRIPTION

Chem 143 Introductory College Chemistry 5 Units 54 Lecture hours, 54 Lab hours, 18 Discussion hours

Prerequisite: Satisfactory completion of MATH 70 or qualification by the MJC assessment process.

Recommended for Success: Satisfactory completion of MATH 90.

Designed to meet the requirements for certain nursing, dental hygiene, physical therapy, agriculture and forestry programs. Principles of general, inorganic chemistry with an introduction to organic chemistry. Uses the factor-label method of problem solving.

Credit not granted to students who have completed CHEM 142.

(A-F or P/NP) Lecture/Lab/Discussion. Transfer:(CSU, UC) General Education: (MJC-GE: A) (CSU-GE: B1, B3) (IGETC: 5A, 5C)

CHEM 143 COURSE LEARNING OUTCOMES

1.Solve abstract and complex chemical problems using general chemistry principles and theories. Where applicable the student will be able to:
    1.Determine appropriate chemical reactions required to solve the problem
    2.Implement dimensional analysis for quantitative problems.
    3.Determine significant figures in final results for quantitative problems.
2.Identify and use chemical laboratory equipment and instrumentation. The student will be able to use chemical laboratory equipment and instrumentation properly
3.Understand the key events in the development of chemistry and recognize that science is an evolving body of the knowledge. The student will be able to:
    1.Understand key events and scientific analysis in the development of atomic theory periodicity.
    2.Determine applications of chemical principles.