# A yellow and red palm tree image flanking the college of the desert icon. Image result for college of the desert logoChemistry 4

# Syllabus

## Course Title & Course/Section Numbers

Fundamentals of Chemistry: CH004 / 6201 or 6205

## Units

4

## Term

Spring 2020

## Class Days/Times

Section 6201 & 6205: Lecture M and W / 9:30-10:50AM

Section 6205: Lab M / 11:30-2:35 PM

Section 6201: Lab W / 11:30-2:35 PM

## Class Location (Building/Room)

Lecture (DM-23)

Lab (S-6)

## Instructor

Dr. D. Mayo

## Contact Information

* Phone: TBA
* Email: damayo@collegeofthedesert.edu

## Office Hours / Location

All office hours are held in my office **S-7**

Monday-8-9:00am, 3-4:00pm

Tuesday-8-9:00am

Wednesday- 3-5:00pm

Thursday- By apt.

Friday- By apt.

## Course Description

This course is a survey of basic principles of inorganic, organic and bio-organic chemistry presented on a level for the general student. Note: This course, in conjunction with CH 005, meets the requirements for Bachelor's degrees in nursing, dental hygiene and allied health programs.

## Student Learning Outcomes

1. Analyze quantitative data to draw plausible conclusions.

2. Relate the macroscale phenomena of human physiological functions to microscale atomic concepts.

3. Apply chemical terminology to describe observed scientific phenomena.

1. Perform basic allied health laboratory experiments safely and accurately.

## Course Objectives

1. Describe the major principles of chemistry.
2. Describe the major categories of inorganic and organic chemical and biochemical reactions.
3. Balance reactions and perform calculations based on balanced reactions.
4. Explain Metric measurements and its importance in the physical science domain.
5. Describe inorganic and organic nomenclature as applies to compound compositions.
6. Describe the major functional groups of organic compounds.
7. Explain oxidation-reduction in the process of metabolism.
8. Describe the major groups of biological molecules and their essential functions in metabolism and heredity.
9. Collect and interpret data in the lab.
10. Work in teams and respect the opinions of others.

## Required Materials

* Lecture text (one of the following):
	+ Chemistry — An Introduction to General, Organic, and Biological Chemistry — Timberlake
		- 13th Ed., ISBN: 0-13-442135-3 (official)
		- 12th Ed., ISBN: 0-321-90844-9
		- 11th Ed., ISBN: 0-321-69345-0
		- 3rd Custom COD Ed., ISBN: 1-256-91675-7
* Lab text:
	+ CATALYST — Fundamentals of Chemistry, Custom COD Ed.
* Supplemental Materials:
	+ 3’’ notebook,
	+ 4 Scantrons (882E) / Long Green
	+ 3X5 index cards
	+ Scientific (non-programable) calculator
* Access to the internet is required for this course.

## Graded Components

* Participation/Professionalism: 5%
* Homework/Assignments: 5%
* Quizzes: 10%
* Lab: 20%
* 3 Exams: 15% each (Total: 45%)
* Final Exam: 15%

## Graded Components

### Participation/Professionalism

Participation points will be awarded for active discussion in class, coming to class on time and online activities before/after class. Students are expected to notify the instructor of any anticipated absences or late/missed assignments *prior* to the due dates by phone or email. Excused absences still count toward the three “missing” labs. Vacation or work conflicts are not considered excusable.

Class meetings start as listed on the schedule. Conversations should end at that time, and you should be prepared to commence taking notes. If you arrive late, please enter quietly through the back door of the classroom. Keep cell phones silenced for the duration of the class. One of the goals of this class is to prepare students to be successful professionals. Professionalism points will be lost for class room disruptions (Examples: cell phones, talking in class)

### Homework

Homework will be assigned weekly and collected.

### Lab

The lab report grade represents the student’s entire performance for a given day. This means that attendance, attitude, cleanliness, efficiency, comprehension, organization, calculations, and answers to prelab/postlab questions are all accounted for in the score for an individual lab report. Experiments will be performed in groups of two. Each group is expected to carry out the entire experiment with no outside collaboration, unless directed otherwise, and every student within a group is expected to take part in performing the experiment. Lab reports shall be turned in at the end of the lab period.

### Quizzes

Four quizzes shall be given this semester. They will be short, covering recent material. Quizzes serve as a way to show both the student and instructor which areas warrant additional study/review in preparation for the next exam.

### Exams

There will be **NO** make-up examinations. Exams missed for any reason will result in a score of zero. Confirmed illness will be handled by the instructor on an individual basis as it relates to absence on the day of an exam. Exam days are posted on canvas.

### Final Exam

The final exam will be comprehensive. There are no make-ups.

## Grade Weights or Point System

* F = 0% - 59.9%
* D = 60.0% - 69.9%
* C = 70% - 79.9%
* B = 80.0% - 89.9%
* A = 90.0% - 100%

## Instructor Drop Policy

Regular attendance in lecture and laboratory is **mandatory**. It is at the instructor’s discretion to drop a student for excessive absences. This includes not sh’9owing up on time for the first day of class or missing three or more classes during a semester.

## Instructor Late Policy

If an assignment is late, 20% of the assignments value will be deducted per day (weekend days are counted singly).

## Academic Integrity

All students are expected to do their own work. This does not preclude collaboration and group study, but it does mean that anything put to paper and turned in is expected to come from the student named on the paper. Cheating, or anything that can be construed as cheating (hint: if you find yourself wondering whether it counts as cheating, it does) will result in forfeit of grade for that activity.

There will be no inter-student communication during in-class quizzes and exams; any comments or questions are to be directed towards the instructor. Laboratory experiments will often be done in pairs, but each student is expected to record their own data throughout the experiment. This means that, for example, “observations” are to be made and recorded at the time of the actual observation. It is not acceptable for one partner to take notes throughout and the other partner to copy everything at the end of lab; such practices will result in a significantly reduced grade for that report for both partners.

In accordance with College of the Desert’s Student Code of Conduct, cheating and plagiarism will not be tolerated. Incidents of cheating and/or plagiarism will result in a failing grade on the work and a report filed with the Office of Student Life.

## Classroom Conduct

Students are required to be respectful to the instructor and their fellow students before, during and after class/lab.

# Emergency Evacuation Plan

In the event of an emergency evacuation during class that requires evacuation of the building, please leave the class immediately, but calmly. Our class will meet in the football field, at which point the instructor will take a headcount to make sure everyone has exited the building safely. If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan.

## Disabled Students Programs and Services

College of the Desert views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. Disabled Students Programs and Services (DSPS) is the office that collaborates with students with disabilities to provide reasonable accommodations. Please contact the DSPS office at (760) 773-2534, dspsinfo@collegeofthedesert.edu, or visit CSSC Room 101 for more information. Once registered with DSPS, students will be provided with a DSPS Faculty Notification Letter that can be shared with faculty.

## Additional Student Resources

* Library Services, Tutoring and Counseling can all be accessed through your student Canvas website at: [MyCOD](http://collegeofthedesert.edu/pages/mycod.aspx) (<http://collegeofthedesert.edu/pages/mycod.aspx>)

## Important Dates

* (Feb 3): Last day to ADD
* (Feb 3): Last day to DROP and qualify for a refund
* (Feb 9): Last day to DROP without a “W”
* (Apr 24): Last day to DROP with a “W”
* (May 18): Final Exam (10:00 Monday)

## Tentative Lecture and Assignment Schedule

All lectures and assignments may be modified at the instructor’s discretion. Please see CANVAS for all current and upcoming events and assignments.

## Lecture Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| Week # | Days | Chapter # | Lecture Description |
| 1 | Jan. 27/29 | 1/2 | Chemistry and Our LivesMeasurements and Significant Figures |
| 2 | Feb. 3/5 | 3 | Matter and Energy |
| 3 | Feb. 10/12 | 4 | Atoms and Elements |
| 4 | Feb. 17 |  | No Class |
| 4 | Feb. 19 | 4 | Atoms and Elements |
| 5 | Feb. 24/26 | 6 | Ionic and Molecular Compounds |
| 6 | Mar. 2/4 | 7 | Chemical Reactions |
| 7 | Mar. 9/11 | 10.4/ 8  | Equilibrium, Gases |
| 8 | Mar. 16/18 | 9 | Solutions  |
| 9 | Mar. 23/25 | 10 | Acids and Bases |
| 10 | Mar. 30Apr. 1 | 11 | Introduction to Organic Chemistry |
| 11 | Apr.6/8 |  | No class |
| 12 | Apr.13/15 | 11 | Unsaturated Hydrocarbons |
| 13 | Apr. 20/22 | 12 | Ethers/Aldehydes/Ketones/ Alcohols/Thiols |
| 14 | Apr. 27/29 | 13 | Carbohydrates |
| 15 | May 4/6 | 15 | Lipids  |
| 16 | May 11/13 | 16 | Amino Acids, Proteins and Enzymes |
| 17 | May 18 |  | FINAL (10:00 Monday) |

The lecture/lab schedule may be modified at the instructor’s discretion. Please see CANVAS for all upcoming labs. Labs **will not** always be in the same order as the lab manual.

## Lab Schedule

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|  |  |  |  |
| --- | --- | --- | --- |
| Week | DaysMonday or Wedsday | Lab # | Lab Description |
| 1 | Jan. 27/29 |  | Introduction, Laboratory Safety, Algebra Review (Handout) |
| 2 | Feb. 3/5 | 1/2 | Measurement and Significant Figures AND Conversion Factors  |
| 3 | Feb. 10/12 | 3 | Density |
| 4 | Feb. 17/19 |  | Extra Office hours week (No Lab) |
| 5 | Feb. 24/26 | 4/7 | Atomic Structure AND Energy (Omit A, B) |
| 6 | Mar. 2/4 | 6 | Compounds (Omit Table A, E3, F)  |
| 7 | Mar. 9/11 | 8 | Reactions |
| 8 | Mar. 16/18 | 9 | Reaction Rates and Equilibrium (Omit C, D) |
| 9 | Mar. 23/25 | 14 | Solutions  |
| 10 | Mar. 30Apr. 1 | 15 | Acids/Bases/Buffers |
| 11 | Apr.6/8 |  | No lab |
| 12 | Apr.13/15 | 17/18 | Properties of Organic Compounds AND Structures of Alkanes |
| 13 | Apr. 20/22 | 20,21 | Alcohols/Phenols AND Aldehydes/Ketones |
| 14 | Apr. 27/29 | H | Saponification |
| 15 | May 4/6 | 22,23 | Types of Carbohydrates (Omit C) AND Tests for Carbohydrates (Omit E, F) |
| 16 | May 11/13 | 30 | Enzymes & Check-Out |
| 17 | May 18 |  | FINAL (10:00 Monday) |