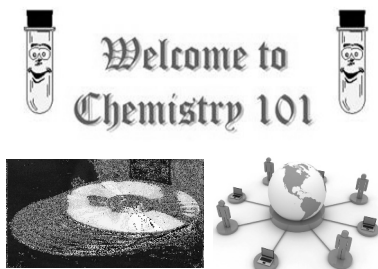


## Chemistry 101-Instructor's Media



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## My Blackboard Site

Now > 4400 hours development time

Chemistry Texts extremely expensive  
~ \$180 when I started at WCC



So,  
My Blackboard site was designed to be independent of texts  
Everything needed for an A grade was put on the site  
Typically ~ 90% students using "my stuff" get an A or B

When WCC demanded intellectual property rights to everything,  
I removed "my stuff" from Blackboard.

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As of Fall semester, 2015

Documents authored by the instructor have been removed from Blackboard  
to protect instructor's intellectual property rights



Their location in Blackboard Site Guide has been preserved  
(to assist in knowing what is available)



Registered students will have access to instructor authored materials  
Media access available during first class meeting



**NOTICE**  
THANK YOU  
FOR NOTICING THIS  
NEW NOTICE  
YOUR NOTICING IT  
HAS BEEN NOTED



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




## Off-Campus Classes

Author content now on a web site.  
url given at first meeting

Content is all point-and click

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## Instructor's Web Site: Entry Point





Click on [Start Here](#) to enter the site

Click on [Start Here](#) to launch the site

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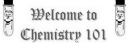
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## Welcome to Chemistry 101

The CHM 101 course is designed to facilitate your transition to the wonderful world of chemistry.

This web site contains copyright material property that has been reserved from Blackboard.

The Copyright Information (Lab Page) contains "start" how will we use most common questions about the course's and administrative issues of the class.

The Copyright Information (Lab Page) contains course materials (lectures, slides, book, notes, available resources, course notes, etc.) designed to help you transition into the wonderful world of chemistry.

The Lab Page contains a gallery view of the lab, a summary of expected student behavior (no food, drink, gum, or cell phones in the lab), a request for your signature, a request for your signature, and a list of the lab's history and the request for your signature.

There are also comments on the safety rules and resources for all the CPO in the Wonderful World of Chemistry Instructional Center.

The Lab Handouts Page contains the chemistry department lab handouts (now files as on Blackboard), as well as handouts, calculations, worksheets, and optional lab resources related to the lab.

The Lab Briefing Slides Page contains copies of top lab briefing slides in three different (one, two, or three slides per page) formats.

The Chemistry Resource List contains a collection of links to resources (for those seeking only outside the course material). Topics include Chemical Maps, Chemistry 101, Chemistry in Every Day Living, Toxic Chemistry in the Environment, Chemical Science and Technology, History of Chemistry, Matter Experimentation, Carbon Chemistry, Lab Safety, Media Physics, and Media Science.

The McGraw Hill Chemical Dictionary provides correct spelling and short explanations of commonly used chemical terms.

Feedback

The only legal question is the one that you answered because it is not asked.

and

The hardest question of all is the one that you answered because it is not asked.

Index Pages: [Available Resources](#) [Course Documents](#) [Course Information](#) [Flash Cards](#)

[Lab Handouts](#) [Lab Information](#) [Lab Briefing Slides](#) [Lab Notes](#)

[Lab Handouts](#) [Lab Information](#) [Lab Briefing Slides](#) [Lab Notes](#)

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Jump to: [Top](#)

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## Welcome Page

Hypertext Links to:

- Course Information Index
- Course Documents Index
- Lab Information Index
- Lab Handouts Index
- Lab Briefing Slides Index
- Chemical Dictionary
- Legal copyright statement

Using site faster than Blackboard:

Multiple Hypertext links

avoids always waiting for top of page

No Commercial trackers

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## Course Information - 1

Index Pages: [Home](#)  
[Assessment Outcomes](#) [Course Documents](#) [Email Guide](#) [Lab Handouts Lab Information](#)  
[Lab Exercise Slides](#) [Lectures Materials](#) [Lectures Slides](#) [Labs Review](#)

**Site Guides**  
[Blackboard Site Guide \(G040\)](#)  
[Blackboard Site Guide \(S043\)](#)

This is a slide set that takes you on a tour of my CEM 101 Blackboard Site. So you will know what is available and where to find it.

**Notes:** All instructor created documents have been removed from Blackboard and are found only on this web site.

**Resources:** Notes from WCC Administration, Schedules of Events and Lab, Previous Quizzes, Class Statistics, Forums, and Grades are only available on the WCC CEM 101 Blackboard Site.

[View This Doc Classroom: 101 Site Guide: 1 slide set used](#)  
[View This Doc Classroom: 101 Site Guide: 2 slide set used](#)

This is a slide set that takes you on a tour of my FunChemistry web site, so you will know what is available and where to find it.

**Comments on Cell Phones / WFF Comments**  
[No Cell Slides](#)

An expanded slide set from the first slides I show during the first day of class.

It depends on the negative learning, social, and health effects of using cell phones and WFFs devices.

No WFF devices have or passed a classroom safety test.

US operates satellites of these also in radiation levels considered safe by most nations.

Medical emergency centers are being destroyed by no longer cover exposure from long term exposure to WFF / Cell Phone radiation.


Some articles documenting negative impact of cell phones on academic performance.

**Resources (G040)**  
[Addendum](#)  
[Facebook and Academic Performance](#)  
[British School of Electronic Research of US Cell Phone Data](#)  
[Social Media and Academics](#)  
[Texting and Academics](#)  
[Texting and Multitasking](#)

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**Hypertext Links to:**

- Site Guides
- Blackboard Site Guide
- FunChemistry Web Site
- Comments on Cell Phone Concerns
- No Cells Slide Set (~ 129 slides)
- Firstenberg on health concerns
- Cell Phone Addiction Stats
- Facebook & Academic Performance
- British Economic Council Study
- Social Media & Academics
- Texting & Academics
- Texting & Multitasking



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## Course Information - 2

**Course Administration / Procedures**  
[Lecture Procedures](#)

A set of general guidelines for expected student behavior in the lecture.

[Why I Do Not Take Breaks](#)

Comment on reasons for No Break Policy with additional comments on reasons for off topic commentaries.

**Class Topics**  
The class is divided into 11 units. This is a list of topics covered in each unit (Extracted from the syllabus)

**Grade Expectations**  
Summary of what each component of the course is worth,  
Shows the effect of missing individual components will have on your Blackboard Percentage Score

**Table of Blackboard Percentage to Letter Grade Conversions.**

**Grade Posting Schedule**  
This explains when you can expect your grades to be posted to your Blackboard My Grades page.

**Need 2 Print?**  
There are more than a thousand pages of documents on this site. It is not necessary to print them all.

The only mandatory printing for on-campus classes is the lab handouts and lab hand-in. All other printing is optional.

**Document Formats**  
A comment on the format (file extension) of documents used on this site.

**Chemistry 101 is Different**  
A comment on what students can expect in higher level courses and why chemistry 101 is not a model for higher level courses.

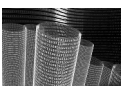
[Why Thought Questions](#)

Thought questions are available for those who arrive before class starts. This is a comment on why they are used.

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**Hypertext Links to:**

- Course Administration
- Lecture Procedures
- Why I Don't Take Breaks
- Lecture Topics (From Syllabus)
- Grade Book Item Percentages
- Grade Posting Schedules
- Need 2 Print?
- Document Formats
- Why CEM 101 is different
- Follow Directions Fun Quiz
- Why Thought Questions



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## Course Information - 3

**Site Email Response**  
Explains need to use CEM 101 in the subject line of any emails to the instructor

**Removed**  
Notice that all my copyrighted material has been removed from my Blackboard Site.


**Why "No Stuff" Was Removed**  
Comments on the reasons I removed "my stuff" from Blackboard.

**Why Instructor Media**  
Comment on instructor media used for "my stuff"

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**Hypertext Links to:**

- Course Administration (Continued)
- No Email Response
- Notice of Removal Material
- Why Blackboard Stuff Removed
- Why Instructor Media



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[Flash Cards](#)

These are two sets of flash cards to assist in learning stuff that needs to be memorized.

[Chemistry Reading List](#)

A collection of book references (For those seeking info outside the course material) Topics include: Chemical Magic, Chemistry Stuff, Chemistry in Every Day Living, Toxic: Chemistry in the Environment, General Science and Invention, History of Chemistry, Prime Experimentation, Etc.etc. Chemistry, Life-Ess. Stuff, Media Physics, and Media Science

[Introductory Chemistry](#)

This an open source introductory chemistry text in pdf format.  
It is not required for the class, it is provided as an additional study resource.

Index Pages: [Start Here](#)

[Associated Outcomes](#) [Course Information](#) [Flash Cards](#) [Lab Handouts](#)

[Lab Information](#) [Lab Teaching Slides](#) [Lecture Materials](#)

[Lecture Slides](#) [Math Review](#)

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## Course Documents - 2

### Hypertext Links to: Flash Cards Chemistry Reading List Introductory Chemistry text



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**ENGLISH IS IMPORTANT BUT MATH IS IMPORTANTER**

Math Review




## Math Review- 1

### Hypertext Links to: Math Study Books Web Tutorials TI-30 Calculator Manual Casio 300 Calculator Manual

**MATH**

The only place where people buy 64 watermelons and no one wonders why...



Index Pages: [Start Here](#)

[Associated Outcomes](#) [Course Documents](#) [Course Information](#) [Flash Cards](#)

[Lab Handouts](#) [Lab Information](#) [Lab Teaching Slides](#) [Lecture Materials](#)

[Lecture Slides](#)

Chemistry 101 does not use multi-variable techniques beyond grade 10/middle school levels.

However, because of the huge variety of math-level skills that are present in the chemistry 101 student population, a summary of basic math skills is presented only for those who find the need to refresh basic elementary math skills.

The following are extended only as a brief overview of a specific math skill.

**Since course pre-requisites assume these are known skills, no class time will be spent on these topics.**

**Math References**

Books offering well-reviewed content on middle school math.

[Web-Based The Algebra Channel](#)

Web sites with video tutorials

[TI-30 Manual](#)

The Texas Instruments TI-30 is considered a remarkable model for an algebra: clip board hand-held calculator.

This is not a sponsored material as such manufacturers may have their own clip specific operations and key pads.

[Casio 300 Plus Manual](#)

The Casio 300 Plus is called the WCC (Wonderful Calculator) because it is so powerful that it can do anything that the typical entry-level scientific calculator

[Jump to Top](#)

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**Displacement Calculations**

Error of representable, scientific notation, and decimal-represented conversions.

**Rounding**

Error of significant figures with the rounding rules for addition/subtraction and multiplication/division.

**Logarithms**

Not used in Chemistry 101, but used in Chemistry 102 and 103.

**Rearranging Equations**

Error of basic algebraic procedures for solving for one variable, cross-multiplication.

**Exponents**

Error of the exponent operations involving fractions.

**Exponents**

Error of arithmetic operations involving decimals.

**Fraction Conversions**

Error of arithmetic operations used to convert decimal representations to fractions and vice versa.

**Percent**

Error of arithmetic operations involving percentages.

**Graphing**

Error of single 3-dimensional (3D) graphing techniques.

[Jump to Top](#)

Index Pages: [Start Here](#)

[Associated Outcomes](#) [Course Documents](#) [Course Information](#) [Flash Cards](#)

[Lab Handouts](#) [Lab Information](#) [Lab Teaching Slides](#) [Lecture Materials](#)

[Lecture Slides](#)

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## Math Review- 2

### Hypertext Links to: Exponent Operations Rounding Logarithms Rearranging Equations Fractions Decimals Fraction Conversions Percent Graphing



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# Lecture Materials-1

**Units 0: First Day**  
**Hypertext links:**  
**Lecture Notes synched to slides**  
**Stuff to memorize**  
**ACS Chemistry Promo**  
**Diet Coke-Mentos Experiment**

**Unit 1: Matter /Energy**  
**Hypertext links:**  
**Expected Learning Outcomes**  
**Notes synched to lecture slides**  
**Matter classification scheme**  
**Extra practice quiz (and answers)**

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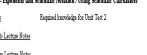

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# Lecture Materials-2

**Unit 2: Exponents and Calculators**  
**Hypertext links:**  
**Expected Learning Outcomes**  
**Notes synched to lecture slides**  
**Extra practice quiz (and answers)**  
**Comments on Numbers**  
**Fantastic journey slide show**

**Unit 3: Rounding & Sig Figs**  
**Hypertext links:**  
**Expected Learning Outcomes**  
**Notes synched to lecture slides**  
**Extra practice quiz (and answers)**  
**Music videos on sig figs & rounding**

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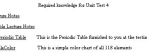

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# Lecture Materials-3

**Unit 4: Atoms & Periodic Table**  
**Hypertext links:**  
**Expected Learning Outcomes**  
**Notes synched to lecture slides**  
**Extra practice quiz (and Answers)**  
**Videos on atomic related topics**  
**Words and music to the Element Song**

**Unit 5: Nomenclature**  
**Hypertext links:**  
**Expected Learning Outcomes**  
**Notes synched to lecture slides**  
**Naming Flow chart**  
**Extra practice quiz (and Answers)**  
**Extra Credit Naming Exercise**

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## Lecture Materials-4

**Unit 6: More Moles**  
**Hypertext links:**  
**Expected Learning Outcomes**  
 Notes synched to lecture slides  
 Extra practice quiz (and answers)  
 Videos on reaction type  
 Practice Insert (and answers)

**Unit 7: Stoichiometry**  
**Hypertext links:**  
**Expected Learning Outcomes**  
 Notes synched to lecture slides  
 Extra practice quiz (and answers)  
 Practice Insert (and answers)

**Unit 8: Gases**  
**Hypertext links:**  
**Expected Learning Outcomes**  
 Notes synched to lecture slides  
 Extra practice quiz (and answers)  
 Practice Insert (and answers)  
 Video on liquid nitrogen expansion



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## Lecture Materials-5

**Unit 9: Solutions**  
**Hypertext links:**  
**Expected Learning Outcomes**  
 Notes synched to lecture slides  
 Extra practice quiz (and answers)  
 Video on titration  
 Video on dissolving substances  
 Practice Insert (and answers)

**Unit 10: Acids and Bases**  
**Hypertext links:**  
**Expected Learning Outcomes**  
 Notes synched to lecture slides  
 Extra practice quiz (and answers)  
 Practice Insert (and answers)

**Unit 11: Atomic Theory (Unit 4 on steroids)**  
**Hypertext links:**  
**Expected Learning Outcomes**  
 Notes synched to lecture slides  
 Extra practice quiz (and answers)  
 Practice Insert (and answers)  
 Music videos on atomic topics



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## Course Documents – Slides

**Lecture Slides (Color 1 per page)**  
 By topic, in order of presentation

**Lecture Slides (Color 2 per page)**  
 By topic, in order of presentation

**Lecture Slides (Color 3 per Page)**  
 By topic, in order of presentation  
 Outline Format to facilitate taking in-class notes

**Lecture Slides (Black-and-White 3 Slides per Page)**  
 By topic, in order of presentation  
 Outline Format to facilitate taking in-class notes



**Color Lecture Slides:**  
 1 slide per page  
 2 slides per page  
 3 slides per page

Although perceived colors will vary,  
 Contrast is viable for color blindness:  
 Deuteranopia  
 Protanopia  
 Tritanopia

As checked by Color Oracle Software

**Slides used in lecture  
 Presented in order of presentation**

**B&W Lecture Slides:**  
 3 slides per page  
 Pure black and white

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[illegible]

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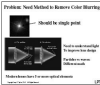
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# Handout Slide Format: Black & White

**Problem: Not Method to Balance Color Slides**



Should be single point

Two separate points

Make a new line to connect equal amounts

10/10/2006 11:00:00 AM

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**Primarily for taking notes**

**3 Slides per page**

**Color reversal:**

**minimizes black ink use**

**lower printing costs**

**But,**

**Microsoft Clip Art:**


**Cannot be exported in B&W**

**Will print in color**

**Unless**

**Printer is only black ink**

**Problem to Watch**



Line graph

Line graph

10/10/2006 11:00:00 AM

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**Electronics Spectrum**



Electronics Spectrum

10/10/2006 11:00:00 AM

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# Learning Outcomes (Annotated)

Chemistry Department Unit Educational Objectives  
(Stuff on the test)  
Annotated with lecture slide material illustrating the specific objective:

Define the following relating to changes and properties:

**Physical Property**  
Observed without forming new substance  
Described by senses  
Color, shape, odor, taste  
Measurable  
mp, bp, density

**Physical Change**  
New form of same substance  
No new substance (chemical entity) formed



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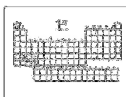
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## Flash Cards - Either As Card Template or Slides

### Flash Cards (PDF)

-  **Common Conversions**  
[CommonConversions \(0.005 kb\)](#)  
Common Metric/English Unit Conversions
-  **Metric Prefixes**  
[MetricPrefixes \(0.001 kb\)](#)  
Prefixes used in the metric system to indicate powers of ten times the base unit
-  **Common Elements**  
[Elements \(0.008 kb\)](#)
-  **Family Charge**  
[FamilyCharge \(0.075 kb\)](#)  
Chemical Families and their common Ionic Charge
-  **Cations**  
[Cations \(0.001 kb\)](#)  
Names and Formulas of the common mono-atomic Cations
-  **Anions**  
[Anions \(0.006 kb\)](#)  
Names and Formulas of the common mono-atomic Anions
-  **Polyatomic Ions**  
[PolyatomicIons \(1.1 kb\)](#)  
Names and Formulas of the common polyatomic Ions
-  **Acids**  
[Acids \(0.200 kb\)](#)  
Names and Formulas of the common Acids
-  **Greek Prefixes**  
[GreekPrefixes \(0.00 kb\)](#)  
Greek prefixes (1-10) used in naming compounds



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### Chemistry Reading List

This online compilation is an [addendum](#) to the [Chemistry Reading List](#) - it is merely a partial listing of books from my personal library that I offer for your consideration; items added for [additional non-text books](#) are [hyperlinked](#).

**Chemical Magic**  
[Book Review: Doing Magic for Teenagers](#), D. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: Chemical Magic](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: Chemical Magic](#), J. R. Williams, New York, NY, 1999, 222 pages.

**Chemistry Stuff**  
[Book Review: Chemistry in Everyday Life](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: Chemistry in Everyday Life](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: Chemistry in Everyday Life](#), J. R. Williams, New York, NY, 1999, 222 pages.

**Chemistry in Everyday Living**  
[Book Review: Chemistry in Everyday Living](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: Chemistry in Everyday Living](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: Chemistry in Everyday Living](#), J. R. Williams, New York, NY, 1999, 222 pages.

**Toxic Chemistry of the Environment**  
[Book Review: The Toxic Environment](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The Toxic Environment](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The Toxic Environment](#), J. R. Williams, New York, NY, 1999, 222 pages.

**General Science & Innovation**  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.

**Emphasis on History**  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.

**Emphasis on History**  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.  
[Book Review: The History of Science](#), J. R. Williams, New York, NY, 1999, 222 pages.

This is Page One of Three

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## Reading List

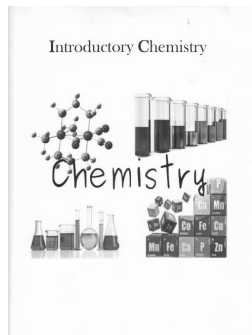
Book list from my personal library:

**Chemical Magic**  
**Chemistry Stuff**  
**Chemistry of Everyday Living**  
**Toxic Chemicals in Environment**  
**General Science & Innovation**  
**Emphasis on History**  
**Home Experimentation**  
**Kitchen Chemistry**  
**Little Kid Stuff**  
**Media Physics**  
**Media Science**

Not required Reading:  
 Info on commonly asked-for topics



## Introductory Chemical Text



**Hypertext Link to:**  
**Introductory Chemistry**  
**By**  
**Mike Ball**

**Not required for class**  
**Optional information source**

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McGraw-Hill

SECOND EDITION

# DICTIONARY OF CHEMISTRY

MORE THAN 8,000 ESSENTIAL TERMS  
COVERS EVERY DISCIPLINE OF CHEMISTRY  
PROVIDES SYNONYMS, ACRONYMS, AND ABBREVIATIONS

## Chemical Dictionary

**Hypertext Link to:  
Open Source Chemical Dictionary**

**Not required for class  
Optional information source**

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Laboratory Information

## Lab Information-1

**Hypertext Links to:**  
**Lab Tour**  
**Lab Procedures**  
**Protect the Legs**  
**Lab Safety Agreement**  
**Legibility Comment**  
**Lab Cover Page**  
**Where Supplies Are Found**

Index Pages: [Start Here](#)

[Approved Outcomes](#) [Course Documents](#) [Course Information](#) [Desk Cards](#)

[Lab Handouts](#) [Lab Procedure Slides](#) [Lecture Materials](#)

[Lecture Slides](#) [Math Review](#)

**Jump to:** [Administrative Stuff](#) [Safety Video Links](#) [CSD Transcripts for World of Chemistry](#)

**Administrative Materials**

[Lab Tour Slides](#)

Visual tour of LA 331 (for chemistry 331 lab)

[Lab Tour Slides PDF](#)

Visual tour of LA 331 (for chemistry 331 lab) PDF, 3 slides per page

[Lab Procedures](#)

Expected student behavior

[Protect the Legs](#)

Consent as to why you protect the legs

[Lab Safety Agreement](#)

Risk Management requires you to copy this into page 1 of your lab notebook

[Legibility](#)

Comment on the importance of legibility in materials turned in for grading

[Lab Cover Page](#)

Optional cover page for the lab notebook

For those who want to print the lab

[Where Lab Supplies are Located](#)

Summary of where to find lab materials and supplies

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Laboratory Information

## Lab Information-2

**Hypertext Links to:**  
**ACS Safety Video**  
**Transcripts for**  
**Anneberg World Of Chemistry**

**Jump to:** [Start Here](#)

[Approved Outcomes](#) [Course Documents](#) [Course Information](#) [Desk Cards](#)

[Lab Handouts](#) [Lab Procedure Slides](#) [Lecture Materials](#)

[Lecture Slides](#) [Math Review](#)

**Jump to:** [Administrative Stuff](#) [Safety Video Links](#) [CSD Transcripts for World of Chemistry](#)

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### Observing




Based on Observations

### Is Different From Inferring/Assuming




Inference on Field Lake?


### Observing




Based on Observations



Based on Observations



Based on Observations



Based on Observations

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**Using the Instructor's Stuff: Express lane on the road to success**



**Any problems / Issues: Contact Instructor  
lptaylor@wccnet.edu  
use CEM 101 in Subject Line**

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