

## Greetings & Welcome to Chem 108 Introductory Chemistry

<http://chemconnections.org/general/chem108/>



*Please hold ALL of your questions. They will ALL be answered shortly in the slides that follow.*

Dr. Ron Rusay  
E-mail: [rusay@chemconnections.org](mailto:rusay@chemconnections.org) (preferred) or [rusay@dvc.edu](mailto:rusay@dvc.edu)

Office Hours (PS 235): MW 10:00 – 11:00; Tuesday, Thursday, Friday by appointment, daily e-mail replies usually within 24 hours.  
Class: MW 11:10-12:35 (PS 275)  
Discussion/Lab:  
12:45-3:55 M (PS 221) sec. 2102  
12:45-3:55 W (PS 221) sec. 2116

## CONNECTIONS

Show of hands

I personally have or have easy (24/7) access to:

- A. a smart phone
- B. a personal computer
- C. the Internet
- D. a printer

*If you DO NOT have or have access to B.), C.), or D.), they are available on the DVC campus. Please make an appointment to meet with Dr. R. as soon as possible to get more information and work out a plan to conveniently use them.*

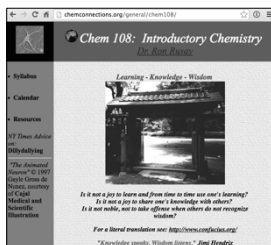
Take out your smart phone.

If you don't have it with you, introduce yourself to a class mate and share theirs.

Open DVC wifi.  
Connect to the Internet.  
Go to:

<http://chemconnections.org/general/chem108/>

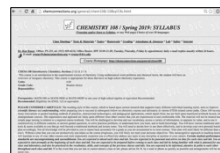
Click on Syllabus link



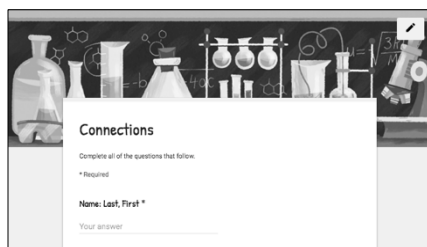
## Chem 108

<http://chemconnections.org/general/chem108/108sy19s.html>

### Syllabus link



- Please sign the roster next to your name on the clipboard that is circulating.
- If you are not listed, or here to add Chem 108, clearly print your name, DVC id & e-mail address on the last page, and next to your name indicate the lab section you wish to add: **M (2102) or W (2116, or both (M/W) if you are flexible.**
- **Class size is limited to 28 max due to lab safety.** Anyone on the roster who is absent today will be placed last on the roster after the wait listed and new sign-ins. **28 lab drawers** will be assigned in lab to the first 28 on the completed list after today's class. **Add codes will be provided at the end of the first lab.**
- Pick up a hard copy of the course syllabus on leaving class today.



Go to:  
<http://chemconnections.org/general/chem108/Connections Guide.html>

Enter your Last Name, and First Name

Then the following 2 questions.

## CONNECTIONS

### Chemistry, STEM & Applications

Why am I enrolling in CHEM 108?

- A. It is a required course that is needed to meet my higher education goals. I have to take it.
- B. Chemistry is very easy to me and I need the 4 credit A to boost my GPA.
- C. I am very interested in science and chemistry.
- D. I'm not sure.

Show of hands; i-clickers or Reef App to be used in future class meetings.)  
<https://app.reef-education.com/#/account/create>



## CONNECTIONS

### Chemistry, STEM & Applications

My plan after completing Chem 108 is to:

- take *General Chemistry* : (If @ DVC: Chem 120)
- take *Integrated Inorganic, Organic, and Biological Chemistry*: (If @ DVC: Chem 107)
- take *Introduction to Organic and Biochemistry*: (If @ DVC: Chem 109).
- NOT** take other chemistry courses after Chem 108.

Page 1 of 1

SUBMIT

Show of hands; i-clickers or Reef App to be used in future class meetings.)  
<https://app.reef-education.com/#/account/create>

## CONNECTIONS

### Requirements Met by DVC Chemistry Courses

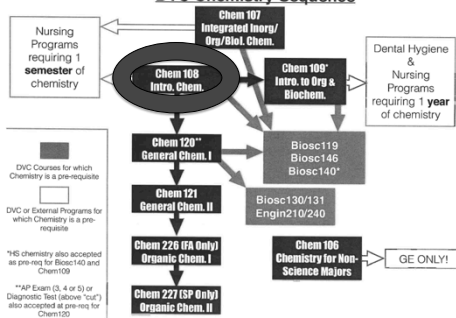
	Chem 108 Chemistry for Non-Science Majors	Chem 107 Integrated Inorg/ Org/Biol Chem	Chem 109 Intro. Chem	Chem 120 Intro. to Org & Biochem	Chem 121 Gen. Chem. I	Chem 122 Gen. Chem. II
DVC GE	X	X	X	X	X	X
ISCTC	X	X	X	X	X	X
CSU GE	X	X	X	X	X	X
Chemistry courses that fulfill AS degree requirements						
Natural Science AS	X	X	X	X	X	X
Health Education AS						
Kinesiology AS						
Sports Management AS						
Training AS						
Chemistry courses that fulfill AS degree requirements (ONE REQUIRED)						
Allied Health AS		X		X	X	
Life Science AS		X		X	X	
Environ Science AS			X		X	
Chemistry courses that ARE REQUIRED to earn AS degrees						
Dental Hygiene AS			X	X		
Civil Eng AS					X	
Elect Comp Eng AS					X	
Health Eng AS					X	
Geology AS					X	X
Prep. Therapy AS	X	X				

Chem 108 and 107 (Organic Chemistry I & II) are required for transfer to some majors but are not currently part of any DVC degree program.



## CONNECTIONS

### DVC Chemistry Sequence

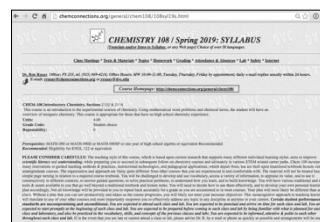


## Chem 108: Class/ Lab

<http://chemconnections.org/general/chem108/108syl19s.html>

\$\$\$???

First  
Timers:  
Tuition  
Free  
(Get information  
from DVC A & R)



\$\$\$???

Course  
Materials:  
Kept as  
low as  
possible

Please read carefully, after today's class.

## Chem 108

<http://chemconnections.org/general/chem108/108syl19s.html>

### Resources: (REQUIRED/MUST HAVE)

- Chem 108 Lab Manual (Available in the DVC Bookstore: \$17.95)
- Webassign: Class Key, dvc 1518 5716, provides access to all of the Webassign resources through your account, which includes An Introduction to Chemistry e-book with associated questions and supporting resources (\$41.00) DVC \$56.70 (?) (Hard copies of An Introduction to Chemistry, Atoms First ISBN978-0-9778105 can be purchased @ \$74.45.)
- i-clicker: The older version is acceptable, as well as the newer . 2 and i-clicker+ versions (\$5.00-\$40.00 on-line & DVC); i-clicker Reef Access Card for smartphone (\$16.20) DVC Bookstore
- Personal e-mail account. (DVC/CCCCD "insite" account not recommended, but ok.)
- Notebook: 3 ring recommended
- Access to the Internet (Can be limited, such as only on the DVC Campus or at free WiFi hotspots)
- Lab safety glasses with side shields or goggles on sale by DVC Chem Club



## Chem 108

<http://chemconnections.org/general/chem108/108assign.html>

From Homepage  
Click on Resources  
link

Resources:  
Reading /  
Active Vocabulary/  
Guiding  
Questions /  
Simulations &  
Molecular  
Modeling



## Libretext aka ChemWiki

*alternative to or additional resource for textbook*

<https://chem.libretexts.org>



*Must enroll in Webassign regardless of choice.*

## Chem 108

<http://chemconnections.org/general/chem108/108syl19s.html>

### Grading:

1. i-clicker questions/in-class participation + answers to on-line Guiding Questions + on-line simulations/quizzes are valued at 15% of the TOTAL grade.
2. Webassign completed work is valued at 15% of the TOTAL grade.
3. Laboratory experiments, activities, pre- & post-lab questions, worksheets and simulations are valued at 25% of the TOTAL grade.
4. 3 exams, each comprising 15% of the TOTAL grade, and, in total, equal to **45%** of the TOTAL grade.

## Chem 108

<http://chemconnections.org/general/chem108/108syl19s.html>

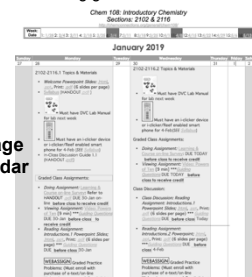
Exam Dates: 3/4, 4/15, 5/22. [Cell phones will not be allowed during exams and quizzes.]

Final letter grades will be assigned based on an overall average in the following ranges: 87-100 A; 75-86 B; 60-74 C; 50-59 D; <50 F, using normalized class averages.

NOTE: The DVC Code of Conduct will be strictly enforced. Cheating and plagiarism are unacceptable and will unconditionally result in a failing grade  
SEE: DVC Academic College Policies

## Chem 108: Beginning of a Journey

<http://chemconnections.org/general/chem108/calendar-108-s19.html>



From Homepage  
Click on Calendar  
link

Follow the Hearing/Viewing-Reading-Doing links in the calendar to lead you on your path.

## Chem 108

Refer to the course calendar page **TODAY & frequently**. The current week's calendar is set the beginning of the week, and is then static. Plan by each week..... *Execute day-by-day. Meet all due dates!!*

Before coming to each class/lab meeting: **Hear/Read, View & Do** the scheduled activity links: **Videos, Powerpoint Class Slides, Notes, Worksheets, Simulations, etc.**

1. **Answer all on-line Guiding Questions.**
2. Review and consider logical answers & **explanations for the embedded Powerpoint i-clicker questions**, then refer to the correct answers, which are presented in class. Bring any questions for discussion to the class meetings and Office Hours.
3. **Complete WEBASSIGN Homework, all lab assignments, activities & worksheets.**
4. Individually and collaboratively use all available resources to develop a sufficient level of **mastery of the class/lab vocabulary, problems, and topics** to understand the chemistry / science and be able to explain concepts clearly to someone else.

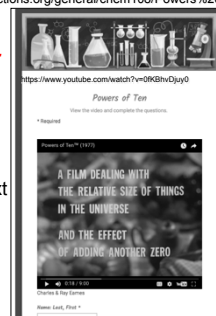
## Hearing/Viewing: Guiding Questions (GQ)

Measurements & Relative Scale

<http://chemconnections.org/general/chem108/Powers%20of%20Ten-Guide.html>

1. **Answer all on-line Guiding Questions.**

First GQ  
assignment  
Due before next  
class.



From the calendar links, submit responses on-line; graded weekly.

# WebAssign Homework

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<https://www.webassign.net/v4cgi/selfenroll/classkey.html>  
 Class Key: dvc 1518 5716  
[http://chemconnections.org/general/chem108/Student\\_Quick\\_Start\\_Guide\\_SE.pdf](http://chemconnections.org/general/chem108/Student_Quick_Start_Guide_SE.pdf)

**1. > Questions Details**

Enter each number in scientific notation.

4800 m =   × 10 m

20300 g =   × 10 g

0.0056 mL =   × 10 mL

50000 cm =   × 10 cm

0.000075 kg =   × 10 kg

Convert the following to regular or standard notation.

3.71 × 10<sup>17</sup> g =


1.8 × 10<sup>4</sup> mL =  mL

3.055 × 10<sup>2</sup> kg =  kg

8 × 10<sup>3</sup> cm =  cm

# Reading: Powerpoint Slides

## Embedded i-clicker Questions



The first image shows a PowerPoint slide titled "Question" with a microscopic image of a cell. The text on the slide reads: "How does protein in the cytoplasm affect the speed of the cell cycle? (a) It has no effect. (b) It slows down the cell cycle. (c) It speeds up the cell cycle. (d) It has no effect." Below the slide is a handheld i-clicker device with a screen and buttons. The third image shows a PowerPoint slide titled "Question" with a measurement scale. The text on the slide reads: "Measurement is a relative scale. (a) Yes, it is. (b) No, it is not. (c) Yes, it is. (d) No, it is not. (e) Yes, it is. (f) No, it is not. (g) Yes, it is. (h) No, it is not. (i) Yes, it is. (j) No, it is not. (k) Yes, it is. (l) No, it is not. (m) Yes, it is. (n) No, it is not. (o) Yes, it is. (p) No, it is not. (q) Yes, it is. (r) No, it is not. (s) Yes, it is. (t) No, it is not. (u) Yes, it is. (v) No, it is not. (w) Yes, it is. (x) No, it is not. (y) Yes, it is. (z) No, it is not. (aa) Yes, it is. (ab) No, it is not. (ac) Yes, it is. (ad) No, it is not. (ae) Yes, it is. (af) No, it is not. (ag) Yes, it is. (ah) No, it is not. (ai) Yes, it is. (aj) No, it is not. (ak) Yes, it is. (al) No, it is not. (am) Yes, it is. (an) No, it is not. (ao) Yes, it is. (ap) No, it is not. (aq) Yes, it is. (ar) No, it is not. (as) Yes, it is. (at) No, it is not. (au) Yes, it is. (av) No, it is not. (aw) Yes, it is. (ax) No, it is not. (ay) Yes, it is. (az) No, it is not. (ba) Yes, it is. (bb) No, it is not. (bc) Yes, it is. (bd) No, it is not. (be) Yes, it is. (bf) No, it is not. (bg) Yes, it is. (bh) No, it is not. (bi) Yes, it is. (bj) No, it is not. (bk) Yes, it is. (bl) No, it is not. (bm) Yes, it is. (bn) No, it is not. (bo) Yes, it is. (bp) No, it is not. (bq) Yes, it is. (br) No, it is not. (bs) Yes, it is. (bt) No, it is not. (bu) Yes, it is. (bv) No, it is not. (bw) Yes, it is. (bx) No, it is not. (by) Yes, it is. (bz) No, it is not. (ca) Yes, it is. (cb) No, it is not. (cc) Yes, it is. (cd) No, it is not. (ce) Yes, it is. (cf) No, it is not. (cg) Yes, it is. (ch) No, it is not. (ci) Yes, it is. (cj) No, it is not. (ck) Yes, it is. (cl) No, it is not. (cm) Yes, it is. (cn) No, it is not. (co) Yes, it is. (cp) No, it is not. (cq) Yes, it is. (cr) No, it is not. (cs) Yes, it is. (ct) No, it is not. (cu) Yes, it is. (cv) No, it is not. (cw) Yes, it is. (cx) No, it is not. (cy) Yes, it is. (cz) No, it is not. (da) Yes, it is. (db) No, it is not. (dc) Yes, it is. (dd) No, it is not. (de) Yes, it is. (df) No, it is not. (dg) Yes, it is. (dh) No, it is not. (di) Yes, it is. (dj) No, it is not. (dk) Yes, it is. (dl) No, it is not. (dm) Yes, it is. (dn) No, it is not. (do) Yes, it is. (dp) No, it is not. (dq) Yes, it is. (dr) No, it is not. (ds) Yes, it is. (dt) No, it is not. (du) Yes, it is. (dv) No, it is not. (dw) Yes, it is. (dx) No, it is not. (dy) Yes, it is. (dz) No, it is not. (ea) Yes, it is. (eb) No, it is not. (ec) Yes, it is. (ed) No, it is not. (ee) Yes, it is. (ef) No, it is not. (eg) Yes, it is. (eh) No, it is not. (ei) Yes, it is. (ej) No, it is not. (ek) Yes, it is. (el) No, it is not. (em) Yes, it is. (en) No, it is not. (eo) Yes, it is. (ep) No, it is not. (eq) Yes, it is. (er) No, it is not. (es) Yes, it is. (et) No, it is not. (eu) Yes, it is. (ev) No, it is not. (ew) Yes, it is. (ex) No, it is not. (ey) Yes, it is. (ez) No, it is not. (fa) Yes, it is. (fb) No, it is not. (fc) Yes, it is. (fd) No, it is not. (fe) Yes, it is. (ff) No, it is not. (fg) Yes, it is. (fh) No, it is not. (fi) Yes, it is. (fj) No, it is not. (fk) Yes, it is. (fl) No, it is not. (fm) Yes, it is. (fn) No, it is not. (fo) Yes, it is. (fp) No, it is not. (fq) Yes, it is. (fr) No, it is not. (fs) Yes, it is. (ft) No, it is not. (fu) Yes, it is. (fv) No, it is not. (fw) Yes, it is. (fx) No, it is not. (fy) Yes, it is. (fz) No, it is not. (ga) Yes, it is. (gb) No, it is not. (gc) Yes, it is. (gd) No, it is not. (ge) Yes, it is. (gf) No, it is not. (gg) Yes, it is. (gh) No, it is not. (gi) Yes, it is. (gj) No, it is not. (gk) Yes, it is. (gl) No, it is not. (gm) Yes, it is. (gn) No, it is not. (go) Yes, it is. (gp) No, it is not. (gq) Yes, it is. (gr) No, it is not. (gs) Yes, it is. (gt) No, it is not. (gu) Yes, it is. (gv) No, it is not. (gw) Yes, it is. (gx) No, it is not. (gy) Yes, it is. (gz) No, it is not. (ha) Yes, it is. (hb) No, it is not. (hc) Yes, it is. (hd) No, it is not. (he) Yes, it is. (hf) No, it is not. (hg) Yes, it is. (hh) No, it is not. (hi) Yes, it is. (hj) No, it is not. (hk) Yes, it is. (hl) No, it is not. (hm) Yes, it is. (hn) No, it is not. (ho) Yes, it is. (hp) No, it is not. (hq) Yes, it is. (hr) No, it is not. (hs) Yes, it is. (ht) No, it is not. (hu) Yes, it is. (hv) No, it is not. (hw) Yes, it is. (hx) No, it is not. (hy) Yes, it is. (hz) No, it is not. (ia) Yes, it is. (ib) No, it is not. (ic) Yes, it is. (id) No, it is not. (ie) Yes, it is. (if) No, it is not. (ig) Yes, it is. (ih) No, it is not. (ii) Yes, it is. (ij) No, it is not. (ik) Yes, it is. (il) No, it is not. (im) Yes, it is. (in) No, it is not. (io) Yes, it is. (ip) No, it is not. (iq) Yes, it is. (ir) No, it is not. (is) Yes, it is. (it) No, it is not. (iu) Yes, it is. (iv) No, it is not. (iw) Yes, it is. (ix) No, it is not. (iy) Yes, it is. (iz) No, it is not. (ja) Yes, it is. (jb) No, it is not. (jc) Yes, it is. (jd) No, it is not. (je) Yes, it is. (jf) No, it is not. (jg) Yes, it is. (jh) No, it is not. (ji) Yes, it is. (jj) No, it is not. (jk) Yes, it is. (jl) No, it is not. (jm) Yes, it is. (jn) No, it is not. (jo) Yes, it is. (jp) No, it is not. (jq) Yes, it is. (jr) No, it is not. (js) Yes, it is. (jt) No, it is not. (ju) Yes, it is. (jv) No, it is not. (jw) Yes, it is. (jx) No, it is not. (jy) Yes, it is. (jz) No, it is not. (ka) Yes, it is. (kb) No, it is not. (kc) Yes, it is. (kd) No, it is not. (ke) Yes, it is. (kf) No, it is not. (kg) Yes, it is. (kh) No, it is not. (ki) Yes, it is. (kj) No, it is not. (kk) Yes, it is. (kl) No, it is not. (km) Yes, it is. (kn) No, it is not. (ko) Yes, it is. (kp) No, it is not. (kq) Yes, it is. (kr) No, it is not. (ks) Yes, it is. (kt) No, it is not. (ku) Yes, it is. (kv) No, it is not. (kw) Yes, it is. (kx) No, it is not. (ky) Yes, it is. (kz) No, it is not. (la) Yes, it is. (lb) No, it is not. (lc) Yes, it is. (ld) No, it is not. (le) Yes, it is. (lf) No, it is not. (lg) Yes, it is. (lh) No, it is not. (li) Yes, it is. (lj) No, it is not. (lk) Yes, it is. (ll) No, it is not. (lm) Yes, it is. (ln) No, it is not. (lo) Yes, it is. (lp) No, it is not. (lq) Yes, it is. (lr) No, it is not. (ls) Yes, it is. (lt) No, it is not. (lu) Yes, it is. (lv) No, it is not. (lw) Yes, it is. (lx) No, it is not. (ly) Yes, it is. (lz) No, it is not. (ma) Yes, it is. (mb) No, it is not. (mc) Yes, it is. (md) No, it is not. (me) Yes, it is. (mf) No, it is not. (mg) Yes, it is. (mh) No, it is not. (mi) Yes, it is. (mj) No, it is not. (mk) Yes, it is. (ml) No, it is not. (mo) Yes, it is. (mp) No, it is not. (mq) Yes, it is. (mr) No, it is not. (ms) Yes, it is. (mt) No, it is not. (mu) Yes, it is. (mv) No, it is not. (mw) Yes, it is. (mx) No, it is not. (my) Yes, it is. (mz) No, it is not. (na) Yes, it is. (nb) No, it is not. (nc) Yes, it is. (nd) No, it is not. (ne) Yes, it is. (nf) No, it is not. (ng) Yes, it is. (nh) No, it is not. (ni) Yes, it is. (nj) No, it is not. (nk) Yes, it is. (nl) No, it is not. (no) Yes, it is. (np) No, it is not. (nq) Yes, it is. (nr) No, it is not. (ns) Yes, it is. (nt) No, it is not. (nu) Yes, it is. (nv) No, it is not. (nw) Yes, it is. (nx) No, it is not. (ny) Yes, it is. (nz) No, it is not. (oa) Yes, it is. (ob) No, it is not. (oc) Yes, it is. (od) No, it is not. (oe) Yes, it is. (of) No, it is not. (og) Yes, it is. (oh) No, it is not. (oi) Yes, it is. (oj) No, it is not. (ok) Yes, it is. (ol) No, it is not. (om) Yes, it is. (on) No, it is not. (oo) Yes, it is. (op) No, it is not. (oq) Yes, it is. (or) No, it is not. (os) Yes, it is. (ot) No, it is not. (ou) Yes, it is. (ov) No, it is not. (ow) Yes, it is. (ox) No, it is not. (oy) Yes, it is. (oz) No, it is not. (pa) Yes, it is. (pb) No, it is not. (pc) Yes, it is. (pd) No, it is not. (pe) Yes, it is. (pf) No, it is not. (pg) Yes, it is. (ph) No, it is not. (pi) Yes, it is. (pj) No, it is not. (pk) Yes, it is. (pl) No, it is not. (pm) Yes, it is. (pn) No, it is not. (po) Yes, it is. (pp) No, it is not. (pq) Yes, it is. (pr) No, it is not. (ps) Yes, it is. (pt) No, it is not. (pu) Yes, it is. (pv) No, it is not. (pw) Yes, it is. (px) No, it is not. (py) Yes, it is. (pz) No, it is not. (qa) Yes, it is. (qb) No, it is not. (qc) Yes, it is. (qd) No, it is not. (qe) Yes, it is. (qf) No, it is not. (qg) Yes, it is. (qh) No, it is not. (qi) Yes, it is. (qj) No, it is not. (qk) Yes, it is. (ql) No, it is not. (qm) Yes, it is. (qn) No, it is not. (qo) Yes, it is. (qp) No, it is not. (qq) Yes, it is.

**FOR QUALITY EDUCATION  
PLAN AHEAD**

Refer to  
Calendar's Next &  
Future  
Classes/Labs

<http://chemconnections.org/general/chem108/calendar-108-s19.html>

The calendar is dynamic and has the class plan for the period through Exam-1. Beyond the current week it is tentative, but very useful for planning.

FOR QUALITY EDUCATION  
**PLAN AHEAD**


Also Refer to  
Resources Page

<http://chemconnections.org/general/chem108/108assign.html>

The Resources page includes links related to assignments and textbook and LibreTexts reading.

How much time beyond class & lab time  
will all of this take?

<http://chemconnections.org/general/chem108/calendar-108-f18.html>



All of the outside assignments &  
homework are designed for ~1.5-2 hrs/day, but the answer  
will depend on you!

Budget your time & get help when needed!! DON' T WAIT!!