BCHEM 142 : General Chemistry I
Course Syllabus-Winter 2013

Instructor: Charles F. Jackels
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Office Hours: Tuesday 11:30-12:30 and Thursday 1:00 – 2:00. All are in UWBB-252. It is best to check with me ahead of time, even for a visit during normal office hours, especially if you are making a special trip for that purpose.

Lab Instructors: Dr. Mina Heydari, *mheydari@bellevuecollege.edu*
Dr. David Symon, *david.symon@email.edcc.edu*
Dr. Brandon Finley, *BFinley@uwb.edu*

Class Times: a) 8:45 – 10:45 AM, Tuesdays and Thursdays, Room UW2-005
b) Labs –Monday, Thurs, or Friday, Bldg CC1-340

Prerequisite: Recommended: high school chemistry and placement into B CUSP 123 or higher.

Mid Term Exams: Jan 31, in class
Feb 26, in class

Final Exam: Mar 19, in class

Required Texts and Equipment:

- "General Chemistry 142, with OWL", taken from "Chemical Principles" Steven S. Zumdahl and Donald J. DeCoste, (7th Ed, Cengage, Mason OH, 2013)
- "Foundations of Chemistry", David M. Hanson, (4th Ed,Pacific Crest, Lisle [IL], 2011)
- Turning Technologies Response Card (clicker)

Reserve Material: The text book and student study guides are on the course reserve shelf in the library. From time to time, journal articles and book chapters may be included as required reading in the course. They will be available on electronic reserve.

Course Description

BCHEM 142 – General chemistry I
(Charles F. Jackels)
This course is the first of a three-quarter sequence in Chemistry intended for students majoring in the sciences or engineering. Covers atomic nature of matter, stoichiometry, periodic table, acids and bases, and gas laws. Includes laboratory. Group work in class includes active learning exercises.

Prerequisite: Prerequisite: placement into B CUSP 123 or minimum grade of 2.0 in B CHEM 139; recommended: high school chemistry.

Specific Course Goals

1. To develop an understanding of the atomic and molecular nature of matter and of the chemical reactions that describe their transformations.
2. To develop individual and collaborative quantitative skills necessary to solve chemical problems using the concepts of balanced chemical reactions, stoichiometry, and chemical equilibrium.
3. To gain an understanding of the properties of matter in the gas phase.
4. To gain an understanding of acids and bases and their reactivity in aqueous solutions.
5. To gain an understanding of the periodic table as an organizing concept of chemical properties.
6. To develop basic laboratory skills and understand common laboratory practices, procedures, and equipment., including safety issues.

Class Participation and Homework

Clickers. Clickers will be used in class and are available at the bookstore. Every student must have a clicker and register it for this class. Note that the e-mail address you provide in registration must be your UWNetID email address. The registration process is attached as an appendix.

Class Participation. Significant class time will be spent in discussion, workgroup problems, active learning exercises, and in-class problem solving. Students will be assigned grades based on their preparation for, and participation in, these class activities. Most often, clickers will be used to record these grades. *If you are missing from class, you cannot make up these in-class participation grades.*

Short daily quizes. Occasional short quizzes will be given covering the material from the previous class, homework, or preparatory material for class. These may take the form of either clicker questions or short paper quizzes. *Missed in-class quizzes cannot be made up, regardless of the excuse.*

Homework Problems. There will be 8-11 homework problem assignments given during the term. In general, they will be chosen from OWL.. There will be "mastery" problems assigned for which you will receive completion credits. You must have an OWL license to receive these points. See appendix for registration instructions. *There will be some "extra credit" OWL homeworks assigned, which can earn credit in the homework category.*

Back-up Copies. You are responsible for maintaining back-up copies of all assignments. If an assignment should be lost or misplaced during the submission or grading process, it is your responsibility to provide a copy of that assignment upon request. Always maintain current backup copies of all of your work. Computer crashes do not qualify as "emergencies" in this class.

Activity Workbooks. You will use the workbook by Hanson to carry out active learning exercises in many of our classes. The workbooks may be collected and checked periodically for completeness.

Exams. The two mid-term examinations will each be based upon approximately one-third of the course material. The final exam will be cumulative, but with an emphasis on the last third of the course. The exams may be mixtures of quantitative problems, short answer questions, multiple choice, and short essay questions. A calculator will be needed for the exams. You **may not** use a smart phone or other network device for this purpose.. *You will be allowed to bring in one 4 x 6 card of equations, constants, etc., to be used during the exams and to be handed in along with them.*

Classroom Rules. These basic rules, in addition to the requirements of the UWB Handbook, apply to the instructor and all students at all times in the classroom. If you cannot observe them at any time, you are expected to leave the classroom:

- No use of computers, smart phones, or other web devices during class. If you use your computer or phone, you may be asked to leave class.
- No headphones, blue tooth earphones, etc in the classroom.
- No cell-phone calls, texting, rings, musical interludes, etc., during class.
- All views are to be heard and engaged respectively. As scholars, we are expected to analyze subject matter critically and express reasonable positions that are based on logic and fact rather than on emotion. **In no case are *ad hominem* arguments permitted in BCHEM 142.**

Attendance: Class & Exams. Any excuse for missing an exam *other than illness or family emergency* must be cleared with me at least one week ahead of time. (Vacation and leisure trips will not be accepted as excuses – don't bother asking.) If you cannot attend class on an exam day because of illness or emergency, you are expected **before class** to contact me by phone, leave a voice mail message, leave a message for me with the Science and Technology Office, or leave me an e-mail message. Failure to notify me in one of these ways will result in you not receiving consideration for a make-up examination.

Regular class attendance is expected, although roll calls will not be generally taken. If you are not present to participate in class discussions, clicker quizzes, daily short quizzes, active learning exercises, work group discussions and/or presentation of a "homework" exercise, that will, of course, profoundly affect your grade on that assignment. *Missed in-class work (for whatever reason) cannot be made up. Do not bother asking about exceptions to this rule.*

Late Assignments. Assignments with due dates will not be accepted late, *except as noted in the assignment instructions*.

Laboratory. The laboratory portion of the course is required. **You must obtain a "passing" grade (≥ 72.3 %) in the lab portion in order to pass the overall course with a grade ≥ 2.0.**

You must obtain a lab grade ≥ 55 % to obtain an overall course grade ≥ 0.7. A separate syllabus for the laboratory part of the course may be handed out your lab instructor at your first lab session. All of the expectations regarding laboratory participation, preparation, and evaluation are stated there and are considered an addendum to this syllabus.

Documented Disabilities

If you believe that you have a disability and would like academic accommodations, please contact Disability Support Services at 425.352.5307 or at rlundborg@uwb.edu. After an initial intake appointment, you should be prepared to provide documentation of your disability in order to receive assistance.

Academic Honesty

The highest standards of academic honesty will be expected in this class. Cheating and plagiarism in any of their forms are unacceptable. At the least, a grade of zero will be assigned to any work that is the product of cheating or plagiarism. Plagiarism is also discussed in the 1993-1995 UW Bothell Catalog:

> "Plagiarism is the use of the creations, ideas or words of someone else without formally acknowledging the author or source through appropriate use of quotation marks, references, and the like. Plagiarizing is stealing someone's work and presenting it as one's own original work or thought. Student work in which plagiarism occurs will not ordinarily be accepted as satisfactory by the instructor, and may lead to disciplinary action against the student submitting it. Any student who is uncertain whether his or her use of the work of others constitutes plagiarism should consult the course instructor for guidance before formally submitting the course work involved."

Work that is assigned to you alone is to be assisted by no one else. When collaboration on homework is permitted, that fact will be made explicit. Assume that all assignments are to be individual work unless I indicate otherwise. The official UWB information on academic integrity is to be found at http://www.uwb.edu/students/policies/integrity.html. Each student is responsible to read and understand that information. *It is your responsibility to clarify with me any uncertainty that may exist on this question. Do not assume that an action is acceptable; ask me to be sure.*

Work turned in for this course may be subject to electronic checking for plagiarism.

Grades.

The final grade will be determined numerically by averaging your scores with the following weights:

Final Exam	20%	Homework "OWL" Problems	10%
Midterm Exam #1	20%	Class Participation and short quizzes	
Midterm Exam #2	20%	(via Clickers)	10%
Labs	20%		

Most grades given during the course of the term will be based on a 100-pt scale. The **official decimal class grades** (0.0 - 4.0) will be determined from a weighted average of your individual grades. A weighted average of 99 will be assigned a decimal grade of 4.0, and a weighted grade of 55 will be assigned a decimal grade of 0.7. Intermediate grades will be determined by a linear relationship between these two limits. This scale represents a *minimum* decimal grade. If I judge it to be appropriate, I will give higher grades than those indicated by this scale. Based on experience, the class GPA will likely fall in the range 2.2-2.4 (a "C+" average).

The following table represents the official UW conversion of standard letter grades to the UW decimal grade scale and the conversion to the 100-pt scale used in this class:

	A Range		B Range			C Range			D Range		
Letter	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
Min Decimal	3.9	3.5	3.2	2.9	2.5	2.2	1.9	1.5	1.2	0.9	0.7
Min 100-pt	98	92	88	84	79	75	71	66	62	58	55

Use of E-Mail

You will be required to use e-mail as part of this course. Since our personal contact hours are quite limited, this will be a major avenue for our communication. In addition, I will use the class e-mail list and web page as means of broadcasting information to the class. It is assumed that class members are reading their e-mail on a daily basis. You may, of course, read your e-mail anywhere of your choosing, but it is required that you will have an active account of the form UWNetID@u.washington.edu *(or @ uw.edu)* that you check or forward daily. You can set up your account from the UW Web page. There is also a link on our course home page that takes you to UW on-line documentation that explains how to set up an account, how to send e-mail, etc.

There is a web-based U-mail form set up that allows you to send me either identified or anonymous e-mail from the browser. It can be found at URL:
https://catalyst.uw.edu/umail/form/jackels/2790
and there are links to this Umail form on the course home page.

Class Listproc

A listserver has been set up for the class.Your UWNetID e-mail account is automatically subscribed to this listproc. I will use this regularly to distribute e-mail messages to you. You may also address messages to this address, but they will be delayed until I pass them on in my role as moderator. The e-mail address for this is:
bchem142b_wi13@uw.edu

Note the single underscore between "bchem142b" and "wi13"; it is required.

Course Home Page

My personal home page is found at the URL:
http://faculty.washington.edu/jackels

Click on the entry referring to this course and you will find yourself at the course home page:
http://faculty.washington.edu/jackels/bchem142.w13/index.htm

Laboratory Blackboard Site (prelab quizzes, lab materials, etc):
http://blackboard.uwb.edu/

Tentative Class Schedule (subject to change)

Week	DATE	READING	TOPICS
1	Jan 8	Z:Ch 1	Chemical Thinking
	Jan 10	Z: Ch2 ; H 2-1;	Atoms, Molecules and Ions
	Lab		Lab1: Dry Lab
2	Jan 15	Z : Ch2 ; H 2-3; H 3-2	Periodic Table; Nomenclature
	Jan 17	Z: Ch3; H 2-2	Stoichiometry; Atomic Masses and Mole
	Lab		Lab2 : Density
3	Jan 22	Z:Ch3; H 3-3; H 3-4	Stoichiometry
	Jan 24	H 4-1; H 5-1	Balanced Rxns; Limiting Reactants
	Lab		NO LAB – HOLIDAY WEEK
4	Jan 29	Z: Ch 4; H 5-2; H 5-3	Reactions in solution; Precipitaton
	Jan 31	Review	**EXAM 1 (chs 1-3)**
	lab		Lab3: Percent Composition.
5	Feb 5	Z:Ch4; H 4-2; H 4-3	Acid-Base Rxns
	Feb 7	H: 4-4	Redox Rxns
	Lab		Lab4 : Stoichiometry
6	Feb 12	Z: Ch 5; H 11-1;	Gases; Ideal Gases;
	Feb 14	H: 11-3	Kinetic theory; diffusion, real gases
	Lab		Lab5 : Redox Reaction
7	Feb 19	Z:Ch 5; H 11-2	Atmospheric Chemistry
	Feb 21	Z: Ch 6; H 15-1	Chemical Equilibrium
	Lab		NO LA B - HOLIDAY WEEK
8	Feb 26	Review	**EXAM 2 (chs 4-5)**
	Feb 28	Z:Ch6; H 15-2; H 15-4	Equilibrium Problems
	Lab		Lab6: Ideal Gases
9	Mar 5	Z:Ch7; H 16-1	Acids;Bases, pH
	Mar 7	H 16-2	Polyprotic acids
	Lab		Lab 7: Titrations Lab8 : CO in Cigarettes
10	Mar 12	Z:Ch7; H 16-3	Solving Acid-Base problems
	Mar 14	Z:Ch 8,	Common Ion effect;
	Lab		Lab Practical
11	Mar 19	{review}	**Final Exam (Chs 6- end and review); No lab**

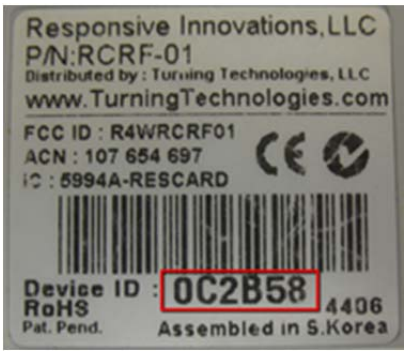
Appendix I: Instructions for Registration of your Turning Technologies Clicker

Instructions for Registration of your Turning Technologies Clicker

See the UWB Learning Technologies Web Page for clicker general information:
http://www.uwb.edu/learningtech/clickers/

Steps for Registering your Clicker

- Go to http://student.turningtechnologies.com/
- or **Device ID**, enter the six digit number on the back of the clicker.



- Enter your first and last name.

- For **Other Info**, type your UW email address.
  This **must** be of the form UWNETID@uw.edu or UWNETID@u.washington.edu. It is not to use any name other than your own UWNETID, and it is to use no email server other than either *uw.edu* or *u.washington.edu*. In particular, *uwb.edu* is invalid.

- Complete the security entry or "Captcha" and click **NEXT**

- **Important:** On this page, enter the e-mail address that was provided by your instructor. The class registration is tied to this e-mail. Use only: jackels@u.washington.edu

- Click on **Display Classes**
- Select the class(es) that you are in and add it to the list by clicking **Add**
  Your class is: BCHEM142B -Jackels-Gen Chem I - Win 13

- Once finished adding classes, click **Next**

- **Important:** You must click **Complete Registration** to finish registration.
- Once you see the **Registration is now complete** message, you may close the page or proceed to register your clicker for another class.

Appendix II
Instructions for OWL Registration

We will be using the OWL learning system during this course. It is provided for a fee by Cengage Publishers, the publisher of your textbook.
Most of you will have purchased the license bundled with your textbook. If it was not bundled with your textbook, you will need to purchase a license from Cengage. This system is required for the assignment and grading of our homeworks in BCHEM 142B during Winter 2013.

See the following video for an explanation of the registration procedure for OWL. It also tells you how to purchase OWL if you don't have it already:
http://www.cengage.com/owl/videos/gettingstarted/

To purchase the access code (only if you did not purchase one with your textbook):

Go to OWL home page:

http://www.cengage.com/owl/

Click on **General Chemistry>BuyAnAccessCode**, and then select the text:

Chemical Principles, 7th Edition
Zumdahl, DeCoste
More Resources

6 Months + eBook
24 Months + eBook
24 Months + eBook + SSM

Note that the above cover does not look like the cover on your "General Chemistry 142", which is the first eight chapters of the pictured text.

Separately, at the same web site, you must register for our course.

- Go to: http://www.cengage.com/owl/
- Click on **Choose Your Course>General Chemistry>Register**, and then:
- Select the correct textbook from the list:

Chemical Principles, 7th Edition ; Zumdahl, DeCoste; ISBN: 978-1-111-58065-0 **(also for Hybrid Edition, ISBN: 978-1-133-10984-6)**

- Select UWB: **University of Washington - Bothell Campus, Bothell, Washington**
- Select student registration:

Department	User Login Page	Student Registration	Request Instructor Account
Chemistry Department	→	→	→

- Select our course:

Course Name	Section #	Instructor	Location	Time
B CHEM 142 A General Chemistry I	A	Kim Gunnerson	UW2-005	11:40-1:00
B CHEM 142 B - General Chemistry - Fall 2012	B	Collins	UW2-005	MW 1:15-3:15
BCHEM 142B Winter2013 Jackels	BCHEM142B	Jackels	UW2-005	8:45 - 10:45 T/TH
View My eBook	Self Enrolled	n.a.	Online	Avail. until accour

The following is the student guide to OWL:

http://www.cengage.com/chemistry/discipline_content/owl/support/student_quick_start.pdf

Student FAQ for OWL:

http://www.cengage.com/chemistry/discipline_content/owl/support/student_faqs.pdf

Student Technical Support Options::

http://www.cengage.com/chemistry/discipline_content/owl/support/instructor_technical_support.pdf

Student Technical Troubleshooting:

http://www.cengage.com/chemistry/discipline_content/owl/support/2009/instructor_technical_troubleshooting.pdf