KWANTLEN POLYTECHNIC UNIVERSITY
Faculty of Science and Horticulture

Chemistry 1094, Spring 2018

Instructor Information

Instructor: Dr. Patrick Duffy
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Office Hours: Mondays, Wednesdays, and Thursdays, from 12 – 1,
All in the Richmond Learning Centre

General Course Information

Credits: 4

Prerequisites: Refer to KPU calendar: http://www.kpu.ca/calendar/2017-18/courses/cheq/

Corequisites: Refer to KPU calendar: http://www.kpu.ca/calendar/2017-18/courses/cheq/

Instruction Format: Two lectures per week (two hours each) and one lab per week (two hours).

Required Material: Basic Chemistry, KPU edition (Zumdahl/Decoste) – textbook
Chemistry 1094 Laboratory Manual and one laboratory notebook
Contact lenses may not be worn in the laboratory. Glasses are therefore required for people who normally wear contact lenses.
Calculator: Sharp EL-531

Optional: Student Study Guide and Solutions Manual for Zumdahl/Decoste

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Evaluation

Lecture		Laboratory	
Three Exams	40	**Lab Reports**	20
Final Exam	30	**Lab Exam**	10

If you have taken Chemistry 1094 previously, you may be entitled to a lab exemption. Please check with me **before the first lab** to verify that you are entitled to an exemption.

Any in-class exam not written by the student will be assigned a grade of zero unless the student can produce a medical note or other relevant documentation supporting the necessity of their absence. **Doctors' notes must indicate that the student was too sick to write the exam.** If such documentation is produced, the weights of the other exams will be increased so that the student will not be penalized for missing the exam. If the student is unable to write an exam, he or she must notify the instructor **before the scheduled exam time**. Labs missed without a valid excuse will result in an incomplete grade being assigned to the laboratory portion of the course. **More than three weeks of lab work missed for any reason will result in an incomplete grade being assigned to the laboratory portion of the course.**

Students requiring accommodation for a disability in chemistry 1094 must ensure that the accommodation notice (from a Disability Advisor) covers **both the lecture and the lab**. A lab assistant accommodation must be approved by a Disability Advisor; the student must arrange this **before the first lab**. The Chemistry Department may provide suggestions regarding finding a suitable lab assistant, however finding a lab assistant remains a student responsibility.

Important Dates
(also see http://www.kpu.ca/registration/dates/full-semester)

Last day to drop without a "W" on transcripts (100% refund)	January 2 (Tuesday)
Last day to drop without a "W" on transcripts (70% refund)	January 9 (Tuesday)
Withdrawl/no refund period commences	January 10 (Wednesday)
Fee payment deadline (late penalties will be applied to payments not received by the deadline)	January 17 (Wednesday)
Term test #1	***January 31 (Wednesday)***
Family Day/Reading Break (No classes/labs)	February 12 – 17
Term test #2	***February 28 (Wednesday)***
Last day to officially withdraw (with W on transcript)	March 8 (Thursday)
Term test #3	***March 21 (Wednesday)***
No class (Easter Monday)	April 2 (Monday)
Final Chemistry 1094 lecture	April 9 (Monday)
Final exam period	April 11 – 19
CHEQ 1094 Final Exam (12 – 3 PM, Room 2550)	***April 12 (Thursday)***

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Grade Guidelines

What follows are the guidelines used to determine your final grade in Chemistry 1094. Please note the restrictions placed on your grade by both the lab component of the course and your performance on the final exam.

To get a(n):	Your total mark (including final and lab) must be:	Within that, your final exam mark must be at least:	And in the Lab:
A+	90 – 100%	80%	All work must be complete, and
A	85 – 89%	70%	you must have an overall
A-	80 – 84%	65%	lab mark of at least 65%
B+	76 – 79%	60%	All work must be complete, and
B	72 – 75%	60%	you must have an overall
B-	68 – 71%	55%	lab mark of at least 60%
C+	64 – 67%	50%	All work must be complete, and
C	60 – 63%	40%	you must have an overall lab mark of at least 50%
C-	56 – 59%	40%	N/A
D	50 – 55%	N/A	N/A
F	<50%	N/A	N/A

Tentative Schedule and Outline of Course Topics

Chapter 1: **Introduction:** Introduction to Chemistry, the scientific method
Problems: 6, 10, 12

Chapter 2: **Measurement and Calculations:** Scientific notation, metric system, significant figures, problem solving and dimensional analysis, temperature, density
Problems: Even-numbered problems: 4 – 24, 32 – 154

Chapter 3: **Matter:** Matter, physical and chemical properties and changes, elements and compounds, mixtures and pure substances, separation of mixtures
Problems: Even-numbered problems: 2 – 58

Chapter 4 **Elements, Atoms, and Ions:** Atomic theory, atomic structure, isotopes, atomic weight, periodic table, ions
Problems: Even-numbered problems: 10 – 38, 42 – 52, 58 – 94, 98 – 110

Chapter 5	**Nomenclature:** Molecular, ionic, and organic compounds, naming compounds
Problems:	Even-numbered problems: 2 – 92
Chapter 20	**Organic Chemistry:** Nomenclatures and structures of hydrocarbons, Categorization of organic compounds by functional groups
Problems:	Even-numbered problems: 8, 12 – 28, 40, 42, 46 – 52, 58 – 62, 74, 82, 90 – 96, 104, 108 – 124, 128, 130, 134, 136, 140
Chapters 6, 7	**Chemical Reactions:** Evidence for a chemical reaction, chemical equations, balancing chemical equations, types of reactions
Problems:	Even-numbered problems: Chapter 6: 2 – 76 Chapter 7: 6, 10 – 40, 54 – 76, 80 – 86, 90 – 94
Chapter 8:	**Chemical Composition:** The mole, molar mass, Avogadro's number, mass-mole calculations, percentage composition, molecular weight, empirical and molecular formulae
Problems:	Even-numbered problems: 2 – 24, 28 – 52, 56 – 126
Chapter 9:	**Chemical Quantities:** Calculations based on chemical equations, limiting reagent, percent yield
Problems:	Even-numbered problems: 2 – 92
Chapter 15 (omit 15.1 and 15.8):	**Solutions:** Components of a solution, concentration units, solution stoichiometry
Problems:	Even-numbered problems: 14 – 26, 30 – 52, 56 – 74, 90 – 96, 100 – 130
Chapter 10.1 – 10.5:	**Energy:** The nature of energy, temperature and heat, exothermic and endothermic processes, thermodynamics, measuring energy changes
Problems:	Even-numbered problems: 8 – 14, 18 – 38, 68 – 78, 84

KPU POLICIES

- **Policy No. HR15 – Diversity and Inclusiveness**
  http://www.kpu.ca/sites/default/files/Policies/HR15%20Diversity%20and%20Inclusiveness%20Policy.pdf

- **Policy No. ST2 – Plagiarism and Cheating**
  What the policy is: Policy
  What we'll do if we discover cheating: Procedure

- **Policy No. ST11 – Attendance and Performance in Semester and Other Term Based Courses**
  http://www.kpu.ca/sites/default/files/Policies/ST11%20Attendance%20and%20Performance%20in%20Semester%20and%20Other%20Term%20Based%20Courses%20Policy.pdf