Course Documentation Outline

School of Business, Biosciences and Justice Studies

SECTION I

1. Program (s): Biotechnology, Chemical, Environmental

2. Course Name: General Chemistry 2

3. Course Code: CHEM 1003

4. Credit Value: 6 Course Hours: 90

Class	Lab	Field	Other	Total
45	45			90

5. Prerequisites/Co-requisites/Equivalent Courses

PR/CO/EQ	Course Code	Title
PR	CHEM 1000	General Chemistry 1

6. **Faculty:** Elinor Brunet **Date:** Jan 5, 2010 **Effective Date:** Jan 11, 2010

7. **Dean Approval:** Dan Holland **Date: January 2010**

9. **Revision Number:** **Date:** **Effective Date:**

10: **Notes: 60% is the passing grade for this course.**

Section II

11. **Calendar Description:**

This course gives an introduction to chemical kinetics, equilibrium, acid-base titration, electrochemistry and solution chemistry. Relevant lab work and techniques are emphasized.

12. **Provincial Context:**
This course meets the following Ministry of Education and Training requirements:

a). **Prior Learning Assessment (PLA)**
Students may apply to receive credit by demonstrating achievement of the course learning outcomes through previous life and work experiences.

This course is eligible for challenge through the following method(s) indicated by *

Challenge Exam	Portfolio	Interview	Other	Not Eligible
*	*			

PLAR Contact:

13. **Employability Skills emphasized in this course**

	communication - written		communication - visual		communication - oral
*	analytical		creative thinking		decision making
*	interpersonal	*	numeracy	*	organizational
*	problem solving	*	technological		other (specify)

14. **Required Texts, Materials, Resources or Technical Materials Required:**

Lab manual produced at the college. Lab coat and safety eyewear (CSA approved).

15. **Evaluation Plan**
Students will demonstrate learning in the following ways:

Assignment Description	Evaluation Methodology	Due Date
Lab reports	30%	weekly
Assignments and quizzes	35%	ongoing
Midterm Test	10%	
Final Exam	25%	Apr 2010

16. **Other**

- **Each student must perform all labs, and all lab reports must be submitted for grading in order to pass the course. Only one lab may be made up at the end of the semester.**

- **No late assignments will be accepted without arrangements being made prior to the due date.**

- **A mark of 0 will be assigned for any tests/quizzes missed by the student unless arrangements are made prior to the test.**

- **The midterm will cover all of the material to that point. The final will cover all of the material covered during the semester. The style of question will be the same as was used on the assignments and quizzes.**

- **Every student will be required to pass the final exam (with a 50% or better) in order to pass the course (which has a 60% pass).**

- **Loyalist College has a Violence Prevention policy:**
    - All College members have a responsibility to foster a climate of respect and safety, free from violent behaviour and harassment.
    - Violence (e.g. physical violence, threatening actions or harassment) is not, in any way, acceptable behaviour.
    - Weapons or replicas of weapons are not permitted on Loyalist College property.
    - Unacceptable behaviour will result in disciplinary action or appropriate sanctions.
    - More information can be found in the "Student Manual and Guide - Rights & Responsibilities".

Contact Information:

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Section III

17. **Curriculum Delivery, Learning Plan and Learning Outcomes:**

Course Components/Content	**Related Learning Outcomes**	**Learning Activities/Resources**
Acids and bases	The student will be familiar with the properties and reactions of acids and bases, and colour indicators. They will have a thorough understanding of pH and pH titrations. Evaluation: variety of assignments and quizzes	The student will be instructed through notes and problems on the blackboard. The student will then apply this knowledge to solve practice problems, and perform the necessary assigned laboratory exercises.
Qualitative/Quantitative Analyses	The student will have an understanding of the effects of pH, temperature on solubility. Flow diagrams will be introduced. Evaluation: variety of assignments and quizzes	
Solutions	Students will gain a better understanding of solutions. They will understand solubility and rates, hydrogen bonding, and solution preparation. Evaluation: variety of assignments and quizzes	
Gases	Students will become familiar with the Universal Gas Laws, Dalton's Law, and Molar volume, as well as Boyle's, Charles', Gay-Lussac's, and Avogadro's Laws. Chemical reaction equations will be introduced. Evaluation: variety of assignments and quizzes	
Chemical Equilibria	Students will be introduced to the Law of Equilibrium, Le Chatelier's Principle, weak acids and bases (K_a and K_b), dissociation of water (K_w), slightly soluble salts (K_{sp}), and pH in solutions. Evaluation: variety of assignments and quizzes	