Fond du Lac Tribal and Community College
COURSE OUTLINE FORM

Updated 9/23/14

Please return this form to the college vice president of academic affairs and the chairperson of the Academic Affairs and Standards Council (AASC)

1. **Prepared by: _____**
2. **Date submitted:** _____
3. Date approved: Date revised: 3/25/2015
4. **Department/discipline:** Chemistry

5. **Department(s) endorsement(s):_____**
   (Signatures of the person(s) providing the endorsement are required.)

6. Course Title: General Chemistry II

   Abbreviated course title (25 characters or less):

7. Course Designator: CHEM

8. Course Level: 1011

9. Number of Credits: Lecture: 4 Lab: 1

10. Control Number (on site): 70/24
    Control Number (online): 0

11. Catalog/Course description:

    This is an in depth study of the principles of inorganic chemistry with emphasis on modern atomic theory, chemical bonding, molecular geometry, gas laws, solution chemistry, acids and bases, chemical equilibrium, electrochemistry, nuclear chemistry, and an introduction into organic chemistry. (Meets MnTC goal area 3).

12. Course prerequisite(s) or co-requisite(s):
    Prerequisite(s): A working knowledge of basic algebra is recommended
    Co-requisite: None

13. Course Materials (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers).

    1. Text: "Introductory Chemistry: A Foundation" Zumdahl/Decoste
    2. Lab Manual: "Introductory Chemistry in the Laboratory

14. **Course Content** (Provide an outline of major topics covered in course)

1. Modern atomic theory
2. Molecular bonding
3. Molecular geometry
4. Gas laws
5. Solution chemistry
6. Acids and bases
7. Chemical equilibrium
8. Electrochemistry
9. Nuclear chemistry
10. Introduction to organic chemistry

15. **Learning Goals, Outcomes, and Assessment**

At FDLTCC we have 4 Competencies Across the Curriculum (CAC) areas. They are as follows:

A. Information Literacy (the ability to use print and/or non-print tools effectively for the discovery, acquisition, and evaluation of information)

B. Ability to Communicate (the ability to listen, read, comprehend, and/or deliver information in a variety of formats.)

C. Problem Solving (the ability to conceptualize, apply, analyze, synthesize, and/or evaluate information to formulate and solve problems.)

D. Culture (knowledge of Anishinaabe traditions and culture, knowledge of one's own traditions and culture, knowledge of others' traditions and cultures, culture of work, culture of academic disciplines and/or respect for global diversity.)

Course learning outcomes will fulfill the identified competencies:

Course Learning Outcomes:

Upon completion of this course, students will be able to:

1. Demonstrate knowledge of solution types, the dissolving process, and the relationship between solubility and temperature. (C)
2. Correctly perform calculations involving concentration expressed as mass % and molar concentration, dilution of solutions, and solution stoichiometry. (C)
3. Demonstrate knowledge of reaction energies, reaction rate, equilibrium, and Le Chatelier's principle as applied in chemical reactions. (C)

4. Demonstrate knowledge of the basic principles of acids/bases and apply these concepts to titrations, indicators, and the calculations of pH. (C)
5. Distinguish between organic and inorganic compounds and be able to identify organic functional groups, structures, and properties of organic compounds. (C)
6. Demonstrate knowledge of alkanes, cycloalkanes, and their nomenclature. (C)
7. Define and identify amino acids, proteins, protein structure, and enzymes. (C)

16. **Minnesota Transfer Curriculum (MnTC):** If this course fulfills an MnTC goal area, state the goal area and list the goals and outcomes below:

    See www.mntransfer.org

    Goal Area(s): 3

    Goal and Outcomes:
    Goal: Natural Sciences
    Outcome:

Complete the following only if you are proposing a new course:

1. Planned pattern of offering:
2. Rationale for course: If this course is an ADDITION or replacement to current offerings, add a detailed explanation of the necessity for the change.
3. Does this course overlap with any course(s) offered at FDLTCC? If so, justify such duplication or indicate other adjustments to be made. Obtain signatures from affected departments.
4. What is the apparent or expressed student need for this course?
5. If this course includes a Native American or specifically Anishinaabe component list campus resource person/s—i.e., campus cultural/spiritual resource person/s and, if necessary, elder/s—consulted and include specific comments and written responses as appropriate.
6. Are there any additional licensing/certification requirements involved?
   a. Provide a copy of the required licensing/certification standards to the AASC chair and to the vice president of academic affairs.
   b. Attach the required documentation to show course meets required licensing/certification standards.
7. What types of tutoring will be made available through the CAA to students taking this course?
8. How will the course be evaluated?
9. Special resources—e.g. faculty, space, equipment, library, etc
10. Special course fees:
11. Relationship of course to the college mission statement and goals.
12. Relationship of course to the department's mission statement and goals.
13. Relationship of course to colleges/university offerings (include tribal colleges).

College or University	**Course Number & Title**	**Credits Awarded**	**General Education**	**Program**
Hibbing CC				
Itasca CC				
Mesabi CC				
Lake Superior				
Leech Lake				
LCO CC				
Bemidji State University				
College of St. Scholastica				
University of Minnesota - Duluth				
University of Wisconsin - Superior				
Other Tribal College				

College or University	Course Number & Title	Credits Awarded	General Education	Program
MEsOther				