

Course Syllabus

COURSE NUMBER: SCIC 5140 COURSE TITLE: Chemistry for School Personnel
Su 2004 SITE: St. Louis INSTRUCTOR CONTACT INFORMATION:
William McConnell CREDIT HOURS: 3

1. Course Description: This course will focus on the observables of chemical reactions. Measurements will be made on several chemical reactions and from the data the relative weights of the elements will be determined. The periodic chart will be studied as an organizer for elements and their reactions. Indicators and pH will be used in the study of reactions. Chemicals used will be household type chemicals.

2. Learning Outcomes: (Insert course outcomes and their links to program outcomes, relevant goals, dispositions, and MoSTEP/Professional Organization standards. Rows and columns may be added or deleted using the Microsoft Word Table Tool).

Course Outcomes Program Goals SOE Goals, SOE Dispositions, and MoSTEP/Prof Standards
Develop content that increases the student's knowledge and conceptual understanding of elements and compounds.
Goal 1 SOE Goal 1.1

MoStep Goals: 1.2.1.1.1-1, 1.2.1.1.2-1, 2 Understand a simple homemade balance and its use in determining the mass of reactants and products.
Goal 2 MoStep Goals: 1.2.1.1-4, 1.2.1.1.1-1, 1.2.1.1.2-1, 2, 3, 4
theories for various reactions and compare the results of your theory with observations.
4 MoStep Goals: 1.2.1.1.2-4 Gain knowledge of reactions that produce gases and the factors that affect these reactions.
Goal 1, 4 MoSTEP Goals: 1.2.1.1.2-8

Schedule of required readings, class preparations and assignments, lectures, discussions, student out-of-class assignments and exams

Class 1 Identifying mystery powders. Learning tests for various properties of matter.

Assign. Organize these books on the shelves provided based on properties.

Class 2 Applying test of mixtures of powders. Building a balance and making a weight set. Introductory elements.

Assign. From lists of chemical compounds and their names what rules about naming can you determine?

Class 3 Rules for naming. Finding mass and volume of different samples of the same element.

Assign. Add additional elements to your graph.

Class 4 Using your graph to identify which element the sample represents. First look at Alka-Seltzer.

Assign. Find the chemical composition from the names of these compounds. From the names of these elements do these compounds contain?

Class 5 Collecting gas from other reactions. Looking for similarities and differences.

Assign. Collect from labels the contents of various household chemicals. Chemical Safety Quiz

Class 6 From gas reactions determine the relative weight of the various elements used to produce base properties of various things with which we have worked.

Assign. Testing materials around your home and design an activity using things we have used. Is it suitable for your students and your goals.

Class 7. Acid-Base titrations and what they can tell us. Trying out other activities.

Assign. Using the internet to find chemical activities.

Class 8 Hands on Lab Problems as midterm exam.

Class 9 Looking at Plastics

Reading on plastics

Class 10 Developing tests for various plastics and identifying unknowns.

Assign. Looking at chemical equations.

Class 11 – 14 Trying various chemical reactions and writing equations for what is happening.

Assign. Readings of chemical reactions.

Class 15 Hands on Final exam with lab stations and different problems at each station.

3. RESOURCES:

Required Text(s): Paper back on Chemical Safety. Various articles on chemical reactions..

4. EVALUATION: (basis of evaluation with explanation regarding the nature of the assignment and the percentage of the grade assigned to each item below)

Homework will be evaluated during discussion with the student.

Activity will be evaluated by instructor and other students.

Quizzes will be graded the scores normalized and grades assigned .

Assessments Links to Course Outcomes Percentage of Grade Homework 1,220 Activity 300

GRADING SCALE: 90-100 A

80-90 B

70-80 C

65-70 D

F

Note: ALL PAPERS/PROJECTS MAY BE RETURNED VIA A SELF-ADDRESSED, ENVELOPE. PAPERS ARE NOT AVAILABLE FOR PICK-UP IN THE SOE OFFICE

6. ACADEMIC HONESTY POLICY:

Students at Webster University are expected to practice academic honesty.

Avoiding Plagiarism

Plagiarism is intentionally claiming that another person's work is his/her own or implying that ar work is his/her own (through inadequate or inaccurate citations of reference material.)

Students:

- Should not copy whole portions of text from another source as a major component of papers or projects.

- Should identify the title, author, page number/webpage address, and publication date of works when directly quoting small portions of texts, articles, interviews, or websites.
- Should appropriately identify the source of information when paraphrasing (restating) ideas from texts, interviews, articles, or websites.
- Should follow the guidelines of the American Psychological Association Style Guide when referencing all research sources.

Consequences of Academic Dishonesty:

For further information about the consequences of academic dishonesty please consult the Webster Student Handbook.

7. ACCESSIBILITY/ACCOMODATIONS POLICY:

If you have a disability that may have some impact on your work in this class and you may require accommodations contact the Director of the Academic Resource Center, McLeese, at (314) 968-7495.

WEBSTER UNIVERSITY SCHOOL OF EDUCATION

Vision: “. . . We all must work to make this world worthy of its children.” (Casals, 1970)

Mission: The School of Education at Webster University provides its students with the knowledges, experiences, and practical tools that help them guide both themselves and others toward lifelong learning. The School of Education is a community of educator-scholars who apply critical reflection and creative energies to enhance learning in schools and other educational settings. The faculty strives to support this community by modeling effective teaching practices based on sound theory and research. Personalized approaches create a challenging, yet supportive environment that permits the risk-taking necessary for learning and growth. The School of Education encourages faculty and students to work actively toward this end, keeping in mind that action must be rooted in visionary, yet realistic, thinking. This thought and action process underscores the development of inner-directed self-understanding, an outer-directed global perspective, and an appreciation of human diversity that arises from both.

Theme: Developing a world of learners through knowledge, leadership, and life-long learning.

The universal mandala (a circle with intersecting vertical and horizontal lines) graphically represents the conceptual framework of the School of Education. The outer circle provides the framework for the “world of learners” in cultural settings. The two axes represent the theme components of knowledge, leadership, and life-long learning. These lines are broken to emphasize the fluid relationship of the goals and integrated concepts. Each quadrant represents one of the school's four goals for its candidates: to develop knowledgeable learners, informed instructors, reflective collaborators, and responsive educators.

Goals

1. Education candidates will demonstrate knowledge of the subject matter, knowledge of the learner, and knowledge of pedagogy based on inquiry and scholarship.

The knowledgeable learner:

- 1.1 knows content that supports conceptual understanding;
 - 1.2 applies tools of inquiry to construct meaningful learning experiences;
 - 1.3 identifies developmental factors in student learning; and
 - 1.4 understands theoretical principles of effective instruction to plan learning experiences.
2. Education candidates will incorporate multiple assessment and instructional strategies to support effective educational practices based on research and theory.

The informed instructor:

- 2.1 designs curriculum based on students' prior knowledge, learning styles, strengths, and needs;
 - 2.2 understands and uses a range of instructional strategies;
 - 2.3 uses a variety of communication modes, media, and technology to support student learning; and
 - 2.4 employs a variety of formal and informal assessments to monitor learning and modify instruction.
3. Education candidates will reflect on the roles educators take as leaders of change through collaboration with colleagues, students, and families in schools and communities.

The reflective collaborator:

- 3.1 values and integrates reflection to grow as a professional;
- 3.2 promotes communication and collaboration with colleagues, families, and community leaders;
- 3.3 seeks relationships with families and students to support student learning; and
- 3.4 initiates change that benefits students and their families.

4. Education candidates will demonstrate respect for diversity through responsive teaching and learning that values individual differences.

The responsive educator:

- 4.1 understands and responds appropriately to issues of diversity
- 4.2 acknowledges social and cultural contexts to create effective teaching and learning environments;
- 4.3 adapts instruction to the learner's knowledge, ability, and background experience; and
- 4.4 identifies resources for specialized services when needed.

Dispositions:

NCATE defines dispositions as "the values, commitments and professional ethics that influence behaviors toward students, families, colleagues, and communities and affect student learning."

motivation, and development as well as the educator's own professional growth. " (Professor Standards, p. 53) There is significant value in focusing attention on qualities that make an effective teacher.

1. Understands and Respects Self
 - 1.1 Understands and respects that s (he) may be different from others
 - 1.2 Embraces an openness to change (adaptability, flexibility)
 - 1.3 Exhibits curiosity
 - 1.4 Engages in reflection

2. Understands and Respects Others
 - 2.1 Understands, respects, and responds appropriately to diversity in a variety of settings
 - 2.2 Exhibits empathy
 - 2.3 Commits to fairness and honesty
 - 2.4 Listens respectfully to other points of view

3. Understands and Respects Professional Communities
 - 3.1 Commits to professional behavior in university and school cultures
 - 3.2 Practices informed decision-making in university and school cultures
 - 3.3 Communicates and collaborates in university and school cultures
 - 3.4 Accepts academic rigor (willingness to work/ high expectations)
 - 3.5 Affects change with courage and confidence