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**WEST VIRGINIA UNIVERSITY AT PARKERSBURG**
**UNIFORM COURSE SYLLABUS**

Name of Course: **Introduction to General Chemistry** Course No. **111**

Department: **Chemistry** Division: **Natural Sciences/Mathematics**

## I. Course Objectives

At the completion of the chemistry course, the student will be able to:

1. Describe the scientific method.
2. Perform metric system measurements.
3. Solve problems using the unit factor method.
4. Describe atomic structure.
5. Characterize matter.
6. Describe chemical bonding.
7. Name inorganic compounds.
8. Write chemical formulae.
9. Draw structural formulae of simple compounds.
10. Write and balance chemical equations.
11. Solve stoichiometry problems.
12. Describe the periodic table of the elements.
13. Solve gas law problems.
14. Solve problems related to solvation.
15. Explain concepts related to chemical equilibrium.
16. Solve acid-base chemistry problems.
17. Describe concepts related to nuclear chemistry.
18. Perform basic chemical analyses.

## II. Topics to Be Studied

**How will course objectives be met?**

Topics covered in the lecture portion of the course include an introduction to the scientific method; systems of measurement to include system conversions; properties of matter to include volume, mass, density, specific gravity, and specific heat; atomic structure to include electron configuration; ion formation and bonding; molecular bond formation; naming of chemical compounds and formula writing; balancing of chemical equations; stoichiometry; empirical and molecular formula; periodic law and periodic table; gas laws and concepts related to physical states of matter; solution formation and calculations; reaction rates and chemical equilibrium; acid-base chemistry; and nuclear chemistry. Laboratory exercises include basic laboratory techniques; determination of density, specific gravity, and specific heat; qualitative analysis; physical and chemical changes; stoichiometry; gas laws; acid-base chemistry and titration.

## III. Special Projects to Be Included in Course

**Research papers** **Reports**
**Surveys** **Annotated bibliographies**
**Other**

Written laboratory reports will be required for each experiment.

## IV. Methods of Student Evaluation

**Tests (how many? how often? what type?)**
**Quizzes**
**Oral Presentations**
**Written Papers**
**Laboratory Activities**
**Clinical Experiences**
Lecture portion evaluation will consist of 5-6 announced quizzes and 4 examinations including a comprehensive final. Examinations consist of recall items such as definitions as well as application items including mathematical computations. Laboratory evaluation will consist of the laboratory report coverage and the scores from two practical examinations.

## V. Assessment of Outcomes

**What measurements will be used to demonstrate that outcomes have been reached? (Refers to class as a whole, not individual students.)**

Students will be asked to complete a course and instructor evaluation form at the end of the semester.

## VI. Other Information

**What additional information will help to clarify the course?**