

## Chemistry

Instructor: Dr. Richard Koesterer (“Dr. K”)

e-mail: [rkoesterer@isps.edu.tt](mailto:rkoesterer@isps.edu.tt)

### Course Guidelines

You will be expected to bring the following materials to class every day:

**Textbook** – your chemistry text is *Chemistry: Visualizing Matter* by Tocci and Viehland.

**Three-ring Binder** – This should be a binder dedicated to Chemistry only. Be sure to keep some blank sheets of paper for recording lecture notes and other important information. All class hand-outs, quizzes and assignments should be kept in this binder. The binder should have tabs for the following: Notes, Labs and Demos, Tests & Quizzes, and Homework.

**Calculator** – A scientific calculator is necessary for this course.

**Pens/Pencils, etc.** – Please note that only blue or black ink is acceptable for written work that you intend to present for evaluation. While pencils are useful for recording some events and activities, please do NOT use pencils for any work handed in.

---

You will be expected to observe and comply with the following policies:

**Reading** – You are responsible for reading the assigned sections of your textbook. You will be informed of these in class. There will be occasional “pop quizzes” on assigned reading.

**Class Notes** – Materials presented during discussion will appear in lab and on quizzes, tests and exams. Take notes and review them often (daily?) Keep these in your binder.

**Homework and other Assignments** – These are to be completed in blue or black ink and are due at the start of class on the day assigned. Late homework will be accepted upon the day of your return to class from EXCUSED ABSENCES ONLY.

**Quizzes** – Short quizzes may be given at any time to measure your daily progress. Some quizzes will be announced, some will not.

**Laboratory** – Most labs will require simply turning in a completed lab worksheet. You will be informed before the lab begins if a formal lab report will be turned in.

**Tests** – Tests will consist of multiple choice questions, problem-solving questions and short essays. Typically, there are three tests each quarter, depending on the length and degree of difficulty of the units involved.

**Participation** – Good participation includes: having the previously listed supplies, and being prepared to use them when class begins; listening while others are speaking; speaking in turn, and behaving in a way that advances the learning process for all present.

Students will be evaluated daily and may gain or lose participation points by the following grading scheme.

Being on time and prepared	+4
Turning in homework on time	+3
Participation	+1
Excellent participation	+2

Being tardy	-2
Disruptive behavior	-2
Off task	-1

**GRADING SCALE:**

90-100	A
80-89	B
75-79	C
70-74	D
0-69	F

**GRADING PROCEDURE:**

1. MAJOR TESTS  
(each quarter) 40%
  2. DAILY GRADES  
(homework, quizzes, class participation) 20%
  3. LAB REPORTS 20%
  4. FINAL EXAM 20%
- of each semester grade

**Course Outline and Description\***

Unit	Title	Description (including, but not limited to the following)	Text
1	Matter and Measurement	Scientific Process, Fundamental Concepts of Chemistry, SI units, Significant figures, Scientific Notation	Ch. 1 & 2
2	Atomic Structure and Radioactivity	Chemistry's "Laws," , Isotopes, Mole, Atomic models, radioactive emissions, half-life	Sections 3.1, 3.2, 3.3, 4.2
3	The Periodic Chart	Mendeleev & Moseley, Regions of the Periodic Chart, Atomic radii, Electron Affinity, Reactivity and Electronegativity.	Sections 4.1-4.3
4	Bonding, Compounds, Nomenclature	Bond types and formation, Lewis Structures, VSEPR Theory, Molecular Geometry, Intermolecular Forces, Nomenclature	Chapter 5 & 6
5	Chemical Reactions & Stoichiometry	Types of Reactions, Balanced Chemical Equations, Mole Ratio, Molar/Mass Conversions, Limiting Reactant, Percent Yield.	Chapter 7 & 8
6	Thermochemistry	Heat of Fusion & Vaporization, Specific Heat, Heat of Reaction, Hess's Law, Enthalpy, Entropy, Gibb's Free Energy	Chapter 9
7	Gas Laws and Phase Changes	Kinetic Molecular Theory, Gas Laws, $PV = nRT$ , Stoichiometry of Gases	Chapter 10
8	Solution Chemistry	Solute/Solvent, Suspensions, Saturation, Henry's Law, Mass Percent, Molarity, Ionic Equations	Chapter 11
9	Chemical Equilibrium	Reversible Reactions, Equilibrium Constant, Common Acids/Bases, Acid/Base Theories, pH	Chapter 12 & 13
10	Reaction Rate	Kinetics, Factors Affecting Reaction Rates, Rate Laws, Reaction Pathways, Catalysts, Inhibitors	Chapter 14

\* Proposed schedule is a guideline only and subject to change.