Course Code *WS200*
3 Units
30 Hours

EMPEROR'S COLLEGE
MTOM COURSE SYLLABUS
CHEMISTRY

Kim, Kyung
Summer 2019

COURSE DESCRIPTION

This course is designed to teach elementary principles of chemistry, organic chemistry, and chemical elements and compounds. It includes an investigation of the constituents of matter, electron arrangement, the periodic table, chemical bonds and reactions, phase states, solutions, acids, bases and electrolytes.

LEARNING OBJECTIVES

Upon completion of this course, the student will be able to understand the pervasiveness of the application of chemical principles of daily life.

COURSE PREREQUISITIES

None

REQUIRED TEXTS

Hills, Feigl, and Baum, Chemistry and Life, 5th edition. Macmillan, New York, 1993.

RECOMMENDED TEXTS

Morrison and Boyd, Organic Chemistry, 3rd edition. Allyn and Bacon, Inc., New York, 1973.

Weast, Handbook of Chemistry and Physics, 53rd edition. CRC Press, Cleveland, 1973.

DuPraw, The Biosciences: Cell and Molecular Biology, Stanford Press, Standford, 1972.

COURSE REQUIREMENTS

Out-of-Class Work
To successfully complete the program, students need to plan studying a minimum of 2 hours out-of-class for each academic in-class hour; and half an hour out-of-class for each hour of clinical training.

20%= Attendance And Quizzes (Only 2 Absences Permitted)
40%=mid-term Examination
40%=final Examination

Classroom Lectures Represent The Instructor's Emphasis And Focus On Certain Aspects Of The Course Material. The Student Is Responsible For The Assigned Readings.

GRADING SCALE: 100-90% A, 89-80% B, 79-70% C, 69% and below F

SPECIAL NOTES

Professionalism and Full and Prompt Attendance: To pass any course (separate from academic performance) all students must meet requirements for professionalism in coursework. Professionalism includes full and prompt attendance: students who miss more than 2 class meetings in a 10-week course or 1 class meeting in a 7-week course will earn an F in that course. Additionally, students who arrive more than 15 minutes to class or leave class before it ends will be given ½ absence towards attendance. NOTE: Students who leave and return to class late from a break or leave during the class (especially if this is repeated) or who disrupt the class in other ways may earn an F in that class and/or be referred to the Academic Dean for professionalism.

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CLASS ONE (The syllabus is subject to change at the discretion of the instructor.)
Introduction
Matter And Measurement
Unit Conversion
Atomic Theory
Electron Arrangement
Periodic Table

Assignment: Hill Chapters 1,2

CLASS TWO
Electron Configuration
Ionic Bonds
Covalent Bonds
Electronegativity
Polar And Non-polar Molecules.

Assignment: Hill Chapters 4

CLASS THREE
Balancing Chemical Reactions
Volume Relationships
Avagadro's Number
Mole And Mass Relationships
Reaction Rates, Equilibrium

Assignment: Hill Chapters 5

CLASS FOUR
Oxidation And Reduction, Chemical Properties Of Oxygen, Chemical Properties Of Hydrogen
Oxidizing And Reducing Agents.
Assignment: Hill Chapters 6

CLASS FIVE
Mid- Term Examination (take Home)

Air: Mixture Of Gasses
Kinetic-molecular Theory
Atmospheric Pressure
Gas Laws

Assignment: Hill Chapters 7

CLASS SIX
Intermolecular Forces
Interionic Forces
Dipole Forces
Hydrogen Bonds
Phases and phases changes

Assignment: Hill chapters 8

CLASS SEVEN
Solutions
Solubility
Molarity
Concentration
Solutions And Cell Membranes
Colloids

Assignment: Hill Chapters 9

CLASS EIGHT
Acids
Acid Strength
Bases
Base Strength
Anydrides
Neutralization Reactions

Assignment: Hill Chapters 10

CLASS NINE
Acid And Base Concentration
Acid-base Titration
The Ph Scale
Salts
Buffers

Assignment: Hill Chapters 11

CLASS TEN
Electrolytes
Electrochemistry
Ionization And Dissociation
Electrolysis
The Activity Series

Assignment: Hill Chapters 12

CLASS ELEVEN
Final Examination

REFERENCE MATERIAL

FACULTY INFO

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Please check with instructor during class to get updated contact info.