Excel HIGH SCHOOL

Chemical Engineering - Course Syllabus (.5 Credit)

Description:
This introductory Chemical Engineering course offers the student an opportunity to explore an important branch of science while learning about the applications and career opportunities in the area of Chemical Engineering. Basics concepts of Chemistry are presented, such as The Periodic Table, atoms, molecules, and compounds, as well as more advanced topics, such as stoichiometry, material balances, and enthalpy.

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Course objectives:
Throughout the course, you will meet the following goals:

- Explain the difference between engineering and science.
- Describe the difference between ionic and covalent bonding.
- Explain how to analyze multicomponent solutions and mixtures.
- Compare and contrast open and closed systems.
- Define stoichiometry and explain its application in chemical engineering.
- Describe the importance of solid-gas interactions.
- Compare and contrast energy balances for open and closed systems.

Contents:
Module 1: Chemistry Basics
Module 2: Bonding, Solutions, and Concentration
Module 3: Chemical Analysis
Module 4: Chemical Systems
Module 5: Stoichiometry
Module 6: Recycling with Chemistry
Module 7: Properties of Gases
Module 8: Solid-Gas Interactions
Module 9: Energy Balances

Grading Scale
A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F = under 59%

Grade Weighting

Chapter Quizzes……	**35%**
Written Projects…….	**35%**
Final Exam……..	**30%**
	100%