

Term: 2017 -2018

Title: Chemistry

Instructor: Aaron Ferguson

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Room: E-114

Date and Time: Monday - Friday

These policies and schedules are subject to change if unforeseen circumstances arise.

Objective: This is a college preparatory course in the physical science strand and is designed to give a basic understanding of the composition and chemical properties of matter. Students will investigate and explore the intersection of chemistry and the natural world. Students will be expected to show their competency in a variety of forms including but not limited to: quizzes, weekly assignments, presentations and exams.

Grades:

Semester 1		Semester 1		Grades	
5 – Exams (50%)	250pts	5 – Exams (50%)	250pts	A	100 - 90%
5 – Quizzes (10%)	50pts	5 – Quizzes (10%)	50pts	B	89 - 80%
10 – Labs (20%)	100pts	10 – Labs (20%)	100pts	C	79 - 70%
20 – Weekly Tasks (20%)	100pts	20 – Weekly Tasks (20%)	100pts	D	69 - 60%
Total	500pts	Total	500pts	F	59 - 0%

Exams:

There will be 5 Exams per semester

- Each Exam will be worth 50pts
- There will be 1 Exam per Module
- Exams will have multiple choice and short answer portions

Quizzes:

There will 5 Quizzes per semester

- Each Quiz will be worth 10pts
- There will be 1 Quiz per Module
- Quizzes will have a variety of types of questions

Labs:

There will be 10 Labs per semester

- Each Lab will be worth 10pts
- There will be 2 Labs per Module

Weekly Tasks:

There will be 20-Weekly Tasks per semester

- Each Weekly Task will be worth 10pts
- Weekly Tasks are due at the end of the week, Friday @ 5pm
- Late Weekly Tasks will not be accepted

Academic Honesty:

Students or groups who copy, or allow others to copy their weekly tasks or projects, will **ALL** receive a zero on the assignment. You are expected to work diligently to answer the assigned questions and are encouraged to check with another group or the instructor to be sure your answers are correct.

Altruism Credit:

The students of the Academy of Business are consistently encouraged to show acts of altruism. Any student who completes approved and signed community service will be given "Altruism Credit" at the rate of 5 pts per 1 hour of service. (50 pts maximum)

Weekly Schedule:

1st Quarter	
8/28 - 9/1	Lecture: Intro to Chemistry; Graphing in Science Weekly Task: Percent Error; Temperature Conversions; Graphing Lab: Density of a Penny
9/4 - 9/8	Lecture: Matter, Phase Changes Weekly Task: Matter; Phase Changes Lab: Milk Kaleidoscope QUIZ - MODULE 1
9/11 - 9/15	Lecture: Dimensional Analysis Weekly Task: Dimensional Analysis; M1 Practice Exam EXAM - MATTER and MEASUREMENT
9/18 - 9/22	Lecture: Atomic History and Structure Weekly Task:
9/25 - 9/29	Lecture: Periodic Organization Weekly Task: Atomic Mass; Protons-Electrons-Neutrons; Lewis Dot Diagram QUIZ - MODULE 2
10/2 - 10/6	Lecture: Electron Configuration Weekly Task: Electron Configuration Lab: Electron Configuration Battleship
10/9 - 10/13	Lecture: Periodic Groups; Periodic Trends Weekly Task: Periodic Groups; Period Trends; M2 Practice Exam Lab: Periodic Trends with Straws EXAM - ATOMIC THEORY
10/16 - 10/20	Lecture: Types of Bonds; Ionic Bonds; Covalent Bonds Weekly Task: Types of Chemical Bonds; Writing Ionic Formulas; Covalent Bonding Lab: Ionic Dice
10/23 - 10/27	Lecture: Electronegativity and Polarity; VSEPR Theory Weekly Task: Polar, Nonpolar and Ionic Bonds; Polarity; Resonance and VSEPR Lab: Making Molecular Models QUIZ - MODULE 3
2nd Quarter	
10/30 - 11/3	Lecture: Naming Ionic Compounds; Naming Covalent Bonds Weekly Task: Naming Ionic Compounds; Naming Covalent Bonds; M3 Practice Exam EXAM - BONDING AND NAMING
11/6 - 11/10	Lecture: Mole Conversions Weekly Task: RP; Avogadro; MW; Mass; Volume; Mixed Mole
11/13 - 11/17	Lecture: Percent Composition and Hydrates Weekly Task: Percent Composition; Hydrates Lab: Percent Composition of Gum QUIZ - MODULE 4

11/20 - 11/24	THANKSGIVING BREAK
11/27 - 12/1	Lecture: Empirical and Molecular Formula Weekly Task: Empirical Formulas; Molecular Formulas Lab: Unknown Hydrate
12/4 - 12/8	Lecture: Hydration Number Weekly Task: M4 Practice Exam EXAM - CHEMICAL QUANTITIES
12/11 - 12/15	Lecture: Balancing Equations Weekly Task: Balancing Equations
12/18 - 12/22	Lecture: Types of Reactions Weekly Task: Types of Reactions Lab: Types of Reactions QUIZ - MODULE 5
12/25 - 1/5	WINTER BREAK
1/8 - 1/12	Lecture: Stoichiometry Weekly Task: Stoichiometry
1/15 - 1/19	Lecture: Limiting Reactants Weekly Task: Limiting Reactants Lab: Limiting Reactants with Candy
1/22 - 1/26	Weekly Task: M5 Practice Exam FINALS WEEK - EXAM - STOICHIOMETRY
3rd Quarter	
1/29 - 2/2	Lecture: Boyles and Charles Law Weekly Task: Boyles Law; Charles Law
2/5 - 2/9	Lecture: Combined Gas Laws Weekly Task: Combined Gas Law; PVnRT QUIZ - MODULE 6
2/12 - 2/16	Lecture: Graham's Law Weekly Task: Graham's Law of Effusion Lab: TBD
2/19 - 2/23	Lecture: Partial Pressures Weekly Task: Dalton's Law of Partial Pressure; Donald Duck EXAM - GAS LAWS
2/26 - 3/2	Lecture: Solutions Weekly Task: Solubility Curves Lab: Making a Solution
3/5 - 3/9	Lecture: Concentration Weekly Task: M, m & Dillution QUIZ - MODULE 7

3/12 - 3/16	Lecture: Colligative Properties Weekly Task: Colligative Properties Lab: Freezing Point of Ice Cream
3/19 - 3/23	Lecture: Electrolytes Weekly Task: M7 Practice Exam EXAM - SOLUTIONS
3/26 - 3/30	SPRING BREAK
4/2 - 4/6	Lecture: Thermochemistry Equations Weekly Task: Calculating Heat and Heat of Formation; Heat of Formation Lab: Heat of Combustion of a Candle
4/9 - 4/13	Lecture: Specific Heat Weekly Task: Specific Heat QUIZ - MODULE 8
4th Quarter	
4/16 - 4/20	Lecture: Calorimetry Weekly Task: Calorimetry Lab: Calorimetry of a Metal
4/23 - 4/27	Lecture: Change of State Weekly Task: M8 Practice Exam EXAM - THERMOCHEMISTRY
4/30 - 5/4	Lecture: Reaction Rates Weekly Task: Le Chatelier's Principle
5/7 - 5/11	Lecture: Reversible Reactions Weekly Task: TBD Lab: Establishing Equilibrium QUIZ - MODULE 9
5/14 - 5/18	Lecture: Equilibrium Constants Weekly Task: Equilibrium Constants; M9 Practice Exam EXAM - EQUILIBRIUM
5/21 - 5/25	Lecture: Nuclear Chemistry Weekly Task: Alpha Beta Decay
5/28 - 6/1	Lecture: Nuclear Fission and Fusion Weekly Task: Half Life Lab: M&M Half Life
6/4 - 6/8	Lecture: Nuclear Power Weekly Task: 3 Mile Island, Chernobyl QUIZ - MODULE 10
6/11 - 6/15	Weekly Task: M10 Practice Exam FINALS WEEK - EXAM - NUCLEAR CHEMISTRY