

Science 6 (Chemistry)

Basic Course Information	Program	Related Courses	Prerequisite
Course Number	Chem 101	Credit Type and Amount	1.5
Class Period	1 hour	Related Course	Chem 102
Department	Chemistry and Biochemistry	Course ID	101-3
Term of Study	1st semester	Course ID	101-3
Required Materials	1. Burdge, G. D., & Mechner, M. (2017). Introductory Chemistry: An Atoms-First Approach. McGraw-Hill Education. 2. Chang, R., & Overman, J. (2016). Chemistry: The Central Science (13th ed.). McGraw-Hill Education.		
Instructor	Dr. Joseph Chiriac	Dr. Joseph Chiriac	

Course Objectives
 Students will be able to describe the relationship between atomic structure and periodicity, based on the periodic table in Chemistry 101.
 Organic chemistry and inorganic chemistry are basic knowledge in many fields including engineering field that require a good knowledge and application of chemistry. The course provides students with basic knowledge concerning Organic chemistry covering of the basic concepts and nomenclature of organic compounds. For inorganic chemistry, students are expected to describe elements, their properties and reactions.
 Students are expected to develop an appreciation of the fundamental laws and principles and their applications to solve basic problems.
 This course also tries to develop students' human skills, such as thinking, working, discussing, and collaborating skills, through labs and group works that are less conventional for global engineers to meet working a new.

Level of Achievement	Very Good	Good	Fair	
Knowledge/Ability	1. Knowledge of the course content is excellent. The student can explain the concepts and principles of Organic chemistry & Inorganic chemistry.	2. Knowledge of the course content is good. The student can explain the concepts and principles of Organic chemistry & Inorganic chemistry.	3. Knowledge of the course content is fair. The student can explain the concepts and principles of Organic chemistry & Inorganic chemistry.	4. Knowledge of the course content is poor. The student cannot explain the concepts and principles of Organic chemistry & Inorganic chemistry.

Learning Objectives
 All materials will be covered in the lecture classroom. The students are expected to keep in mind the scope of the course. The students are expected to keep in mind the scope of the course. The students are expected to keep in mind the scope of the course.

Course Objectives	1. Describe the periodic table and its use in predicting the properties of elements. 2. Describe the periodic table and its use in predicting the properties of elements. 3. Describe the periodic table and its use in predicting the properties of elements.
Course Period	1st semester
Prerequisites	None

Course Plan	Content and Method of Course	Books	Related MOU
1st week	1.1. Atomic structure and periodicity	1. Describe the periodic table and its use in predicting the properties of elements. 2. Describe the periodic table and its use in predicting the properties of elements. 3. Describe the periodic table and its use in predicting the properties of elements.	1.5
2nd week	1.2. Properties of transition metals	1. Describe the properties of transition metals. 2. Describe the properties of transition metals. 3. Describe the properties of transition metals.	1.5
3rd week	1.3. Coordination compounds	1. Define coordination compounds. 2. Describe the properties of coordination compounds. 3. Describe the properties of coordination compounds.	1.5
4th week	1.4. Geometry and bonding of coordination compounds	1. Describe the geometry and bonding of coordination compounds. 2. Describe the geometry and bonding of coordination compounds. 3. Describe the geometry and bonding of coordination compounds.	1.5
5th week	1.5. Crystal field theory and application of coordination compounds	1. Describe the crystal field theory and application of coordination compounds. 2. Describe the crystal field theory and application of coordination compounds. 3. Describe the crystal field theory and application of coordination compounds.	1.5
6th week	1.6. Sources of metallic elements and metallurgy	1. Describe the sources of metallic elements and metallurgy. 2. Describe the sources of metallic elements and metallurgy. 3. Describe the sources of metallic elements and metallurgy.	1.5
7th week	1.7. Applications of metals	1. Describe the applications of metals. 2. Describe the applications of metals. 3. Describe the applications of metals.	1.5
8th week	Mid-term examination		
9th week	Mid-term examination		
10th week	Reflection for mid-term examination		
11th week	2.1. Introduction of hydrocarbon and hydrocarbon compounds	1. Describe the introduction of hydrocarbon and hydrocarbon compounds. 2. Describe the introduction of hydrocarbon and hydrocarbon compounds. 3. Describe the introduction of hydrocarbon and hydrocarbon compounds.	1.5
12th week	2.2. Aromatic hydrocarbons	1. Describe the aromatic hydrocarbons. 2. Describe the aromatic hydrocarbons. 3. Describe the aromatic hydrocarbons.	1.5
13th - 14th week	2.3. Hydrocarbon derivatives	1. Describe the hydrocarbon derivatives. 2. Describe the hydrocarbon derivatives. 3. Describe the hydrocarbon derivatives.	1.5
15th - 16th week	2.4. Isomerism	1. Describe the isomerism. 2. Describe the isomerism. 3. Describe the isomerism.	1.5
17th - 18th week	2.5. Synthesis and properties of polymers and composites	1. Describe the synthesis and properties of polymers and composites. 2. Describe the synthesis and properties of polymers and composites. 3. Describe the synthesis and properties of polymers and composites.	1.5
19th week	Final Examination		
20th week	Return of examination result and reflection		

Attendance	Participation	Midterm	Final	Total
100%	100%	100%	100%	100%

Final Exam	Final Exam	Final Exam	Final Exam
100%	100%	100%	100%