Science 6 (Chemistry)

Basic Course Information					
Course Number	03005024	Subject Category	Compulsory(Q)		
Class Formst	Lecture		1.5		
Department	Electrical and Electronics	Student Category	Year 3		
Period of Study	Semester 2	Classes per Week	3		
Required Materials	Burdas, J., Driesser, M. (2017), Introductory Chemistry: AN ATOMS FRST APPROACH McGraw-Hill Education. Chang R, Overby, J. (2019). Chemistry (13th ed.). McGraw-Hill Education.				
Instructor	Dr. Thitipat Chongchargendi Dr. Tianchai Chooppawa				

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on the basic invaskingte learn in Chemistry 1 to 4, Organic chemistry and horganic chemistry are basic knowledge in many field including engineering field that require a goo revaskingte and application of chemistry. This course provides equivents with basic knowledge concepts of Organic chemistry constitute of thy discontinuous common and the terror compounds. For inorganic chemistry, providing competits about metal elements, their properties and applications.

This course also tries to develop students' human skills, such as thinking, explaining, discussing, and collaborating skills, through solo and group works that are key competencies for global engineers to creat something new.

Evaluation/Futeriol	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Understanding of Organic chemistry & Metal - Transition metal elements		Only understanding	Lacks the appropriate
		of the basic terms and contents.	knowledge and understanding
Mathematical and graphical representation		Equations show understanding and graphs are reasonable with	Equations are limited or inaccuracy, Graphs are incomplete or absent,

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Outline	Students fearn basic concepts and principles of Organic chemistry and Inorganic chemistry. The worksheet, workbook and presentrations are designed to help the students to develop incovering, problem solving skills and understanding.
Class Formati	Lecture/exercise
Plance Note :	All materials will be posted on the Google classroom. The students are requested to leep photo oppies or files of all submitted material to ensure further study by oneselvier.

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Sometier 2	0	Goals	Poleted MCC
Semester 2	Contents and Method of Course 1. Metals and transition metals	1) Compare the general	Related MOC
Sst week	1.1, Alkali, alkaline earth metals and aluminium	11 Compare the general physical properties of repeated properties of retails and non-metals. 22 Describe the general chemical properties of the general chemical properties of 28 Describe the Group I alkali metals with general trends down the group and predict the properties of other elements is Circus II productions from the trends in physical and chemical properties of the elements in Circus II. 22 State the order of the reactivity perfect	0 1 4
		predictions from the trends in physical and chemical properties of the elements in Group II. 3) State the order of the reactivity series. 1) Describe the properties of transition elements. 2) Describe the properties.	C 2
2nd week	1.2. Properties of transition metals	1) Describe the properties of transition elements, of transition elements, 22 Describe the periodic transits in radii and caldistion states of the stansition-metal ions, including the origin and effect of the farrhenide contraction, 1) Define coordination compound, 2) identify the coordination number of a coordination number of a coordination number of a coordination.	EC 1 2
3nd week	1.3. Coordination compounds	2) identify the coordination number of a coordination complex. 2) Name coordination compounds given their formula and write their formula and write their formula and write their formula given their name. 1) Define learnerism and differentiate between the various speed isomers. 2) Recognitive and draw the geometric loanners of a complex. 3) Recognitive and draw the	EO 4 8
4th week	1.4. Geometry and bonding of coordination compounds	complex	8-C 3 1 8-C 3 1 8-C 3 1 8-C 4 1
5th week	S. Crystal field theory and application of coordination compounds.	II) Apply concepts of crystal field theory to explain common and the common common and the common common and the common	8-C 3 1 8-C 3 1 8-C 3 1 8-F 6 1
Gth week	1.6. Sources of metallic elements and metallurgy	1) Describe the ease in obtaining metals from their ones, related to the position of the metal in the reactivity series. 2) Describe the extraction of metals.	EC 3 1 EC 3 1 EC 3 1 EO 4 5 EO 4 1
7th week	1.7. Applications of metals	1) Decorbe the uses of metals in terms of their physical properties. 2) Exalian in terms of structure how allows can be harder and stronger than the pure metals because the different sized atoms in allows mean the layers can no longer sized outres. 3) Decorbe the uses of allows in terms of their physical properties.	第G 3 1 第G 2 1 第G 2 1 第O 4 5 第O 4 1
8th week	Wrap up for midterm examination	To review and summarize the key concepts and topics covered in the first half of the semester.	
9th week	Mid-term examination	Evaluation of students' comprehension	
10th week	Reflection for midterm examination	Review students' results and the mid-term exam	
	2. Organio chamistry	Determine the hybridization of atoms in molecules based on observed molecular	W-C 3 1
11th week	2.1. Neoduction of hybridgeton and hydrocarbon compounds	Individual of access in incidence based on incidenc	WC 2 1
12th week	2.2. Aromatic hydrocarbons	11 Intercent and use the general, structural, displayed and skeletal formulae of aromatic hydrocarbons. 22 Naming the aromatic hydrocarbons based on LIPAC naming method. 28 Describe the physical and chemical properties of aromatic hydrocarbons. 40 Describe the preparation and testing of aromatic hydrocarbons.	W-C 3 1 W-C 3 1 W-C 3 1 W-C 3 1
		hydrocarbons.	
13th - 14th week	2.3 Hydrocarbon derivatives	11 informet and use the general, strutural, displayed and skeletal formulae of Indirocarbons derivatives, 20 identity a functional group of Indirocarbons derivatives, 35 Namers the Indirocarbons derivatives to the properties of the Indirocarbons derivatives to the Indirocarbons derivatives derivativ	8-C 3 1 8-C 3 1 8-C 3 1 8-C 3 1
13th - 14th week 15th - 16th week	23 Teleconfor devalues 2.4 Teleconfor	Interpretate and use the interpretation of t	第〇 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		1) Interpret and use the general, structural, displayed and skeletal formulae of hydrocarbons derivatives, 2) Identify a functional	#C 2 2 3 5 5 5 5 5 5 5 5 5
15th - 16th week	24 horestus	Interpretate and use the second control of t	#C 2 2 3 5 5 5 5 5 5 5 5 5