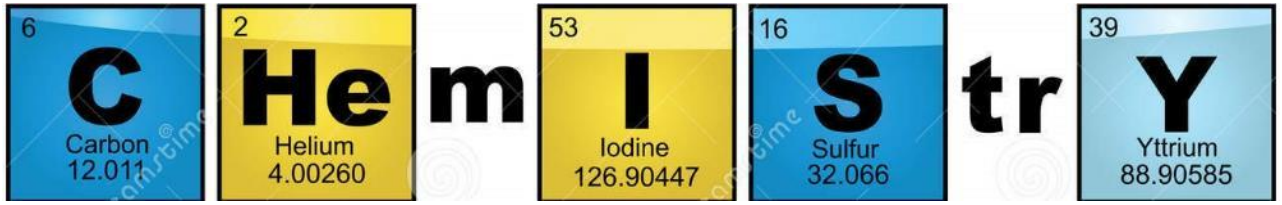


DMCU1233

UTeM
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

Teaching Plan

UNIVERSITI TEKNIKAL MALAYSIA MELAKA
FACULTY OF MECHANICAL ENGINEERING

CHEMISTRY

DMCU 1233	SEMESTER I	SESSION 2021/2022

COURSE STAFFS

a. Lecture & Laboratory Sessions

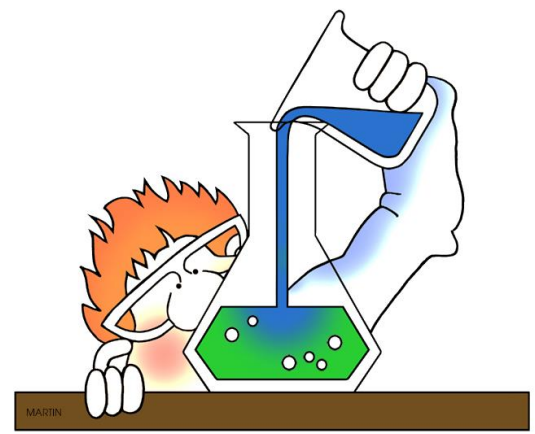
Lecturer	Lecture	Lab & Tutorial
Imran Syakir Bin Mohamad : 019.507.5710 : imran@utem.edu.my http://imsymo.blogspot.com/p/kimia.html	S1 & S2 S3 & S4	S1, S4
Dr. Mohd Haizal Bin Mohd Husin : 012.618.1447 : haizal@utem.edu.my	S1 & S2 S3 & S4	S1
Nurul Hanim Binti Razak : 019.337.2751 : nurulhanim@utem.edu.my		S2, S3, S4

b. Laboratory Staff

Adybah Atyqa Shahrina Binti Aimee Shahrin
: 011.2673.6277
: adybah@utem.edu.my

COURSE IMPLEMENTATIONS

a. Lecture (Online) – 2 hours per week for 13 weeks (Total = 26 hours)
b. Tutorial (Online) – 3 hours per week for 3 weeks (Total = 9 hours)
c. Laboratory (Online) – 3 hours per week for 5 weeks (Total = 15 hours)
   There are 5 laboratory sessions throughout this course. The laboratory session covers topics:
   - Lab 1: Usage and Calibrate of Lab Glassware Equipment
   - Lab 2: Density of Liquid and Solid
   - Lab 3: Preparation and Standardization of Solution
   - Lab 4: Vinegar Analysis
   - Lab 5: Boyle`s Law



LECTURE IMPLEMENTATION

WEEK 1 to WEEK 7 : Dr Mohd Haizal
Chapter 1-3

WEEK 8 to WEEK 15 : Imran Syakir
Chapter 4-7

WEEK 1 to WEEK 7 – Dr Haizal

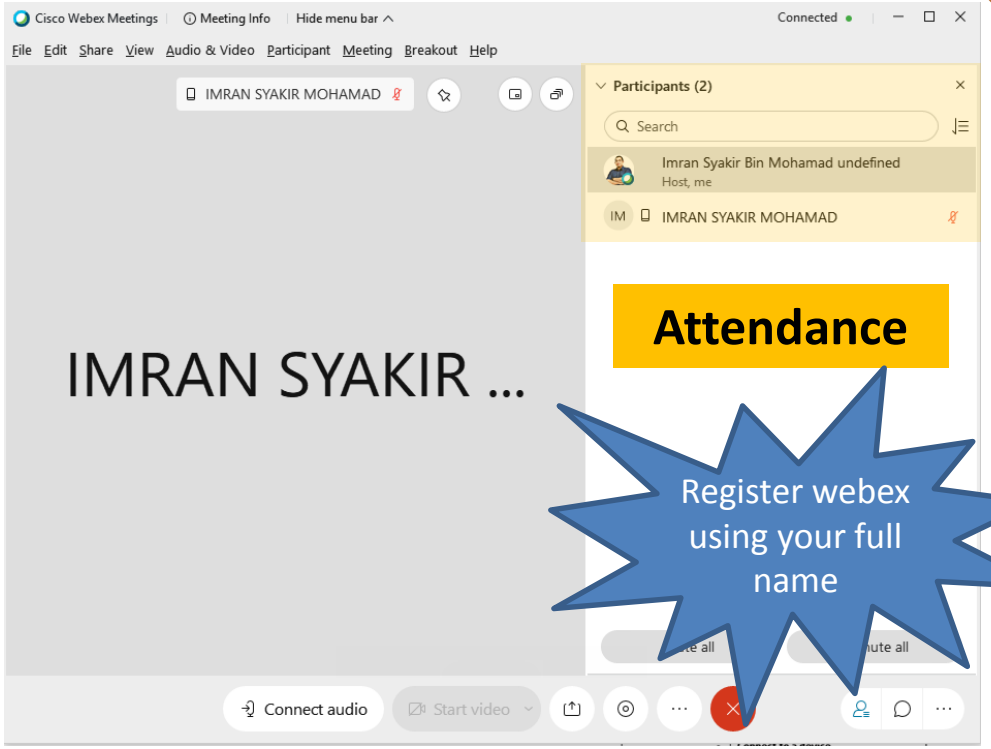
LECTURE IMPLEMENTATION

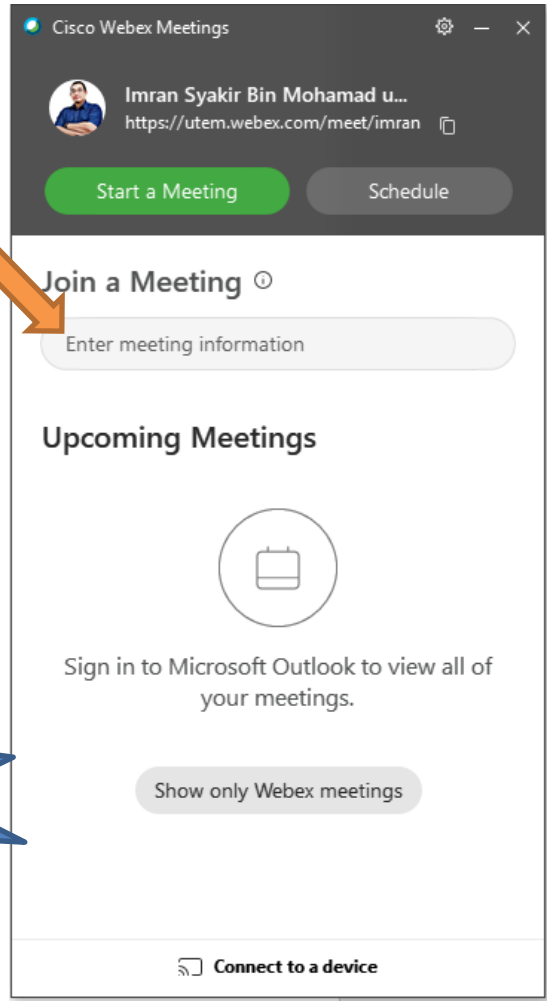
- Online Lecture via Cisco Webex
- **My webex Room Link =**

WEEK 8 to WEEK 15 – Imran Syakir

LECTURE IMPLEMENTATION

- Online Lecture via Cisco Webex
- **My webex Room Link = https://utem.webex.com/meet/imran**



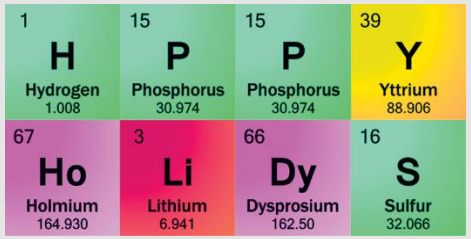


Week	Section	Contents	Remarks
Week 1 04/10/2021 - 08/10/2021			
Week 2 11/10/2021 - 15/10/2021	**Briefing**	**Introduction** • Syllabus • Coursework • Assessment	

Week 3 18/10/2021 - 22/10/2021 **Week 4** 25/10/2021 - 29/10/2021	**Chapter 1**	**Chapter 1: Chemistry The Study of Change** • Introduction • Classifications of matter • Physical & chemical properties of matter • Measurement (SI Units, mass & weight, volume, density, temperature scales) • Handling numbers (Scientific notation, significant figures) • Factor label method of solving problems	

Week 5 01/11/2021 - 05/11/2021	**Chapter 2**	**Chapter 2: Atom, Molecules and Ions** • The structure of the atom • Atomic number, mass number and isotopes, molecules and ions • Chemical formulas • Naming compounds (Ionic compound, molecular compound, acids and bases, and organic compounds)	**Quiz 1** **(Chapter 1 - 2)**

Week 6 08/11/2021 - 12/11/2021 **Week 7** 15/11/2021 - 19/11/2021	**Chapter 3**	**Chapter 3: Chemical Reaction** • Atomic mass, molar mass of an element and molecular • Avogadro's number • Percent composition of compounds • Empirical and molecular formulas • Chemical reactions and chemical equation • Amount of reactants and products • Limiting reagents and reaction yield • Reaction in aqueous solution, concentration of solution • Gravimetric analysis, acid-base titrations	Tutorial 1 (Chapter 1- 3) (Week 7)

Week 8 20/11/2021 - 23/11/2021			

Week 9 29/11/2021 - 03/12/2021 **Week 10** 06/12/2021 - 10/12/2021	**Chapter 4**	**Chapter 4: Structure of Atoms and Periodic Table** • Model of the atom, quantum numbers • Atomic orbital, electron configuration and building up principle (Aufbau's, Hund's, Pauli's) • Periodic table • Periodic classification of the elements • Electron configurations of ions and transition Metal • Trends in physical and chemical properties such as atomic radii, effective nuclear charge, ionization energies electron affinities and electronegativity	Lab 1 (Week 9) **Mid Semester Test (Chapter 1 - 3)** Lab 2 (Week 10)

Sorry Professor, you're right:
I DID skip a line of the instructions...

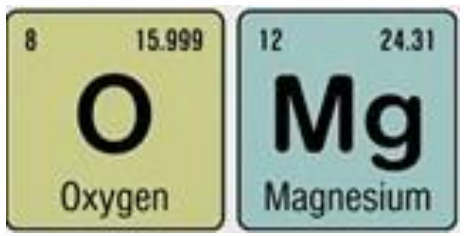
Week 11 13/12/2021 - 17/12/2021	**Chapter 5**	**Chapter 5: Chemical Bonding** • Ionic bonding, covalent bonding • Electronegativity and polarity, molecular geometry • Intermolecular forces and effect of polarisation (Dipole dipole forces, Ion dipole forces, Dispersion Forces, Hydrogen Bond)	Tutorial 2 (Chapter 4 - 5) (Week 11) **Quiz 2** **(Chapter 4 - 5)**

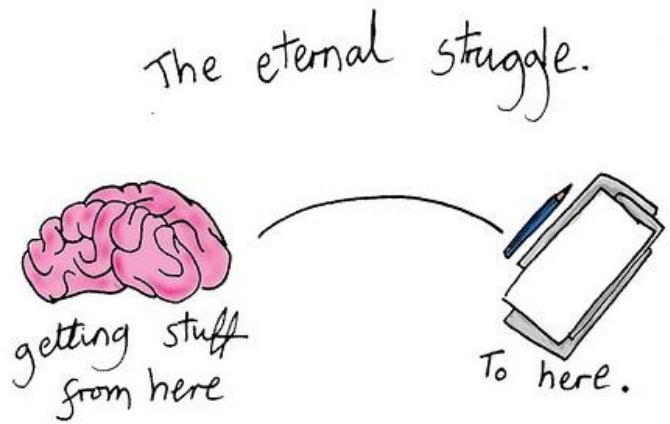
Sorry Professor, you're right:
I DID skip a line of the instructions...

Week 12 20/12/2021 - 24/12/2021 **Week 13** 27/12/2021 - 31/12/2021	**Chapter 6**	**Chapter 6: Properties of Matter** • Three states of matter, phase changes • The gas laws (Boyle's, Charles' & Guy Lussac's, Avogadro's, Ideal gas equation) • Gas stoichiometry • Liquids properties (Surface tension, cohesion, adhesion, viscosity) • Solids (Crystalline and amorphous solid), unit cell (cubic cells) • Characterization of materials (SEM, Nitrogen adsorption analysis, XRD)	Lab 3 (Week 12) Lab 4 (Week 13)

Week 14 03/01/2022 - 07/01/2022	**Chapter *7***	**Chapter *7*: Thermochemistry** • Energy in chemical reaction, system and surrounding • Exothermic and endothermic process, enthalpy • Thermochemistry equation	Lab *5* (Week 14)
Week 15 10/01/2022 - 12/01/2022	**Chapter *7***	**Chapter *7*: Thermochemistry** • Calorimetric, heat capacity, specific heat capacity • Standard enthalpy of formation, standard enthalpy of reaction • Hess Law	Tutorial 3 (Chapter 6 - *7*) (Week 15)

Week 16 12/01/2022 - 16/01/2022		**REVISION WEEK**	
Week 17-18 17/01/2022 - 30/01/2022		**EXAMINATION WEEK**	





TEACHING SOURCE

1. Ulearn (DMCU1233)
2. Blog

Blog

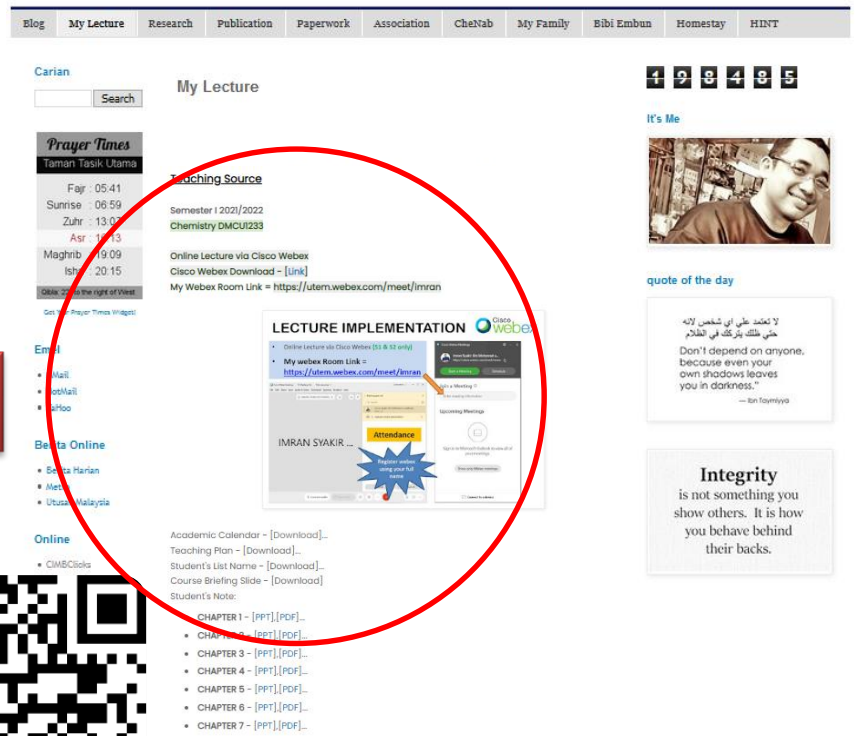
Teaching Source

Semester I 2021/2022
Chemistry DMCU1233

Online Lecture via Cisco Webex
Cisco Webex Download - [Link]
My Webex Room Link = https://utem.webex.com/meet/imran

Academic Calendar - [Download]...
Teaching Plan - [Download]...
Student's List Name - [Download]...
Course Briefing Slide - [Download]
Student's Note:

- CHAPTER 1 - [PPT],[PDF]...
- CHAPTER 2 - [PPT],[PDF]...
- CHAPTER 3 - [PPT],[PDF]...
- CHAPTER 4 - [PPT],[PDF]...
- CHAPTER 5 - [PPT],[PDF]...
- CHAPTER 6 - [PPT],[PDF]...
- CHAPTER 7 - [PPT],[PDF]...



http://imsymo.blogspot.com/p/kimia.html

COURSE INSTRUCTIONS

Attendance is compulsory for lectures/tutorials/laboratories and should be more than 80% of the total contact hours. Students must wear shoes during laboratories sessions. The lecturer/lab assistant has the authority to ban the students from attending laboratories sessions in the case of failure to wear safety shoes. There will be no replacement for laboratories session unless a valid medical certificate (MC) is presented.

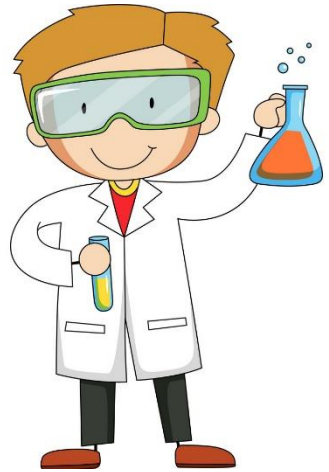
COURSE EVALUATIONS

COURSE WORK	CRITERIA	PERCENTAGE (%)
Lab Report	5 Experiments (3 hours/Experiment)	40
Quiz	2 Quizzes (15 minutes/Quiz)	10
Mid Semester Test	1 Test (1.5 hours/Test)	10
Final Exam	2.5 hours	40
TOTAL		**100**

LAB & TUTORIAL IMPLEMENTATION

	W7	W9	W10	W11	W12	W13	W14	W15
LAB		①	②		③	④	⑤	
TUTORIAL	❶			❷				❸

- Online Lab and Online Tutorial
- Lab Data will be given



LAB REPORT SUBMISSION

	W9	W10	W12	W13	W14	W15
LAB	①	②	③	④	⑤	
REPORT SUBMISSION		❶	❷	❸	❹	❺

- PDF format. Submit via ULearn (DMCU1233)
- Submission must be made **ONE (1) WEEK** after the experiment takes place

Lab Report Submission

1. Handwritten only
2. Use pen not pencil, except for graph
3. Compile all your lab sheets (in Portrait Mode) in ONE File. Make sure it is clear to read your answer.
4. Use your full name as **file name**
5. Submit your answer script in **PDF Format**
6. Check your file before submit via Ulearn.