**SCCH151 GENERAL CHEMISTRY I**

**Semester 1 Academic year 2021**

**Date** Wednesday 9.00-12.00 **Student Group** ENNM

Online Google classroom SCCH151 General Chemistry I\_1/2564 Class code: gfrtdhl

Meet link: https://meet.google.com/lookup/fuynbyiijz

**Instructor:** Tinnakorn Tiensing E-mail: tinnakorn.tie@mahidol.edu

**Course description**

 Stoichiometry; atomic structure; chemical bonding; theory representative and transition metal elements; organic chemistry; nuclear chemistry; environmental chemistry

| **No** | **Date** | **Topics** | **Instructor** |
| --- | --- | --- | --- |
| 1 | 11 Aug 2021 | Chemistry concept, Naming chemical compounds,  | Tinnakorn Tiensing |
| 2 | 18 Aug 2021 | Stoichiometry: concentration units, calculation the concentration of solution | Tinnakorn Tiensing |
| 3 | 25 Aug 2021 | Atomic structure and atomic theory: structure of atom and theory, quantum theory, atomic orbitals, and electron configuration | Tinnakorn Tiensing |
| 4 | 1 Sep 2021 | Chemical bonding theory: Lewis structure, drawing molecular structure, concept of resonance, valence electron, | Tinnakorn Tiensing |
| 5 | 8 Sep 2021 | Chemical bonding theory: molecular geometry, valence bond theory, VSEPR, hybridization of atomic orbitals, molecular orbital theory | Tinnakorn Tiensing |
| 6 | 15 Sep 2021 | Chemical bonding theory (cont.): molecular geometry, valence bond theory, VSEPR, hybridization of atomic orbitals, molecular orbital theory | Tinnakorn Tiensing |
| 7 | 22 Sep 2021 | Periodic table of representative and transition elements | Tinnakorn Tiensing |
| 8 | 29 Sep 2021 | Periodic table of representative and transition elements | Tinnakorn Tiensing |
| 9 | 4-9 Oct 2021 | MIDTERM Examination |  |
| 10 | 13 Oct 2021 | No class |  |
| 11 | 20 Oct 2021 | Basic organic chemistry: Nomenclature, Functional group | Tinnakorn Tiensing |
| 12 | 27 Oct 2021 | Basic organic chemistry: Functional group and structural isomer | Tinnakorn Tiensing |
| 13 | 3 Nov 2021 | Nuclear chemistry  | Tinnakorn Tiensing |
| 14 | 10 Nov 2021 | Nuclear chemistry | Tinnakorn Tiensing |
| 15 | 17 Nov 2021 | Nuclear chemistry, Environmental chemistry | Tinnakorn Tiensing |
| 16 | 24 Nov 2021 | Environmental chemistry | Tinnakorn Tiensing |
| 18 | 29 Nov – 10 Dec 2021 | Final Examination | Tinnakorn Tiensing |

Student evaluation is in accordance with the rules and regulations of the Faculty of Science, Mahidol University. Letter grades of A, B+, B, C+, C, D+, D, and F will be given according to the student’s score.

**Score** consists of:

 Exercise / Home work / attention 10% [attention 5, Exercise and homework 5]

 Quiz (Google form, Quiz assignment) 10%

 Midterm Exam (Google form, Quiz assignment) 40% [divide into sub-section chapter’s exam]

 Final Exam (Google form, Quiz assignment) 40% [divide into sub-section chapter’s exam]

| Score(percentage) | Symbols |
| --- | --- |
| 80 – 100 | A |
| 75 – 79 |  B+ |
| 65 – 74 | B |
| 55 – 64 |  C+ |
| 50 – 54 | C |
| 40 – 49 |  D+ |
| 30 – 39 | D |
| 0 – 29 | F |

**Reference;**

1. ทวีชัย อมรศักดิ์ชัย และคณะ. เคมี 1 และ เล่ม 2 กรุงเทพฯ: แมคกรอฮิลล์; 2550. (แปลและเรียบเรียงจาก Chang, R. Chemistry. 9th, 10th, 11th ed. USA: McGraw-Hill, Inc.; 2007.)
2. Chang, R. Chemistry 9th, 10th, 11thed. (International ed.). USA: McGraw-Hill, Inc.; 2007.
3. Olmsted, J. A. and Williams, G. W. *Chemistry*. 4th ed. USA: John Wiley & Sons, Inc.; 2005.
4. McMurry, J. and Fay, R.C. *Chemistry*. 4th ed. USA: Prentice Hall; 2004.
5. Oxtoby, D. W.; Gillis, H. P. and Campoin, A. *Principles of Modern Chemistry*. 7th ed. USA: Thomson Brooks; 2012.
6. Hill, J.W. and Petrucci, R.H. General Chemistry, An Integrated Approach. 3rd edition. USA: Prentice Hall; 2002.
7. Atkin, P.W. Atkin’s Molecules. 2nd edition. UK: Cambridge University Press. 2003.
8. Middlecamp, C.H. et al. Chemistry in Context: Applying Chemistry to Society. 7th edition. USA: McGraw-Hill. 2012.