SCCT 111 Principle of Chemistry (3-0-6)

Student: SCCT (Science Program in Chemical Innovation and Technology)

Semester: 1 Academic Year: 2025

Credit: 1 credit (3-0-6: Lecture-Practice-Self study)

Period: Thursday (13.30-16.30 pm)

Place: Room SC1-155

Instructors: 1. Asst. Prof. Teera Chantarojsiri (TC) (teera.cha@mahidol.edu)

2. Asst. Prof. Phoonthawee Saetear (PS) (phoonthawee.sae@mahidol.ac.th)

Course description:

Stoichiometry; atomic structures and periodic Trends; chemical bonding; thermodynamics, chemical kinetic; chemical equilibrium; acids and bases; gases; electrochemistry

Schedule

Week	Thu	Topic	Instructor
1	7 Aug	Stoichiometry	TC
2	14 Aug	Atomic structure	TC
3	21 Aug	Electron configuration & Periodic trend	TC
4	28 Aug	Chemical bonding (metallic and ionic bonding)	TC
5	4 Sep	Covalent bonding	TC
6	11 Sep	Covalent bonding	TC
7	18 Sep	Gas	TC
8	25 Sep	Review	TC
9		Midterm (29 Sep – 3 Oct 2025)	
10	9 Oct	**No Class** - MU's Graduation Ceremony	-
11	16 Oct	Chemical equilibrium	PS
12	23 Oct	**No Class** - Holiday: Chulalongkorn Memorial Day	-
13	30 Oct	Acid-Base equilibria	PS
14	6 Nov	Acid-Base equilibria	PS
15	13 Nov	Electrochemistry	PS
16	20 Nov	Electrochemistry	PS
17	27 Nov	Review	PS
18		Final exam (1- 12 Dec 2025)	

Note: Due to the class cancellation, the instructor will schedule a make-up session with the student.

References

1. Chang, R. Chemistry 9th, 10th, 11th ed. (International ed.). USA: McGraw-Hill, Inc.; 2007.
2. Olmsted, J. A. and Williams, G. W. Chemistry. 4th ed. USA: John Wiley & Sons, Inc.; 2005.
3. McMurry, J. and Fay, R.C. Chemistry. 4th ed. USA: Prentice Hall; 2004.
4. Oxtoby, D. W.; Gillis, H. P. and Campoin, A. Principles of Modern Chemistry. 7th ed. USA: Thomson Brooks; 2012.

Course Evaluation

1)	Midterm exam	30 points
2)	Final exam	30 points
3)	Homework/Assignment	20 points
4)	Quiz	10 points
5)	Class attendance	10 points
		Total 100 points

Letter grading

Score	Grade
≥ 80	A
75–79	B+
70–74	B
65-69	C+
60-64	C
55-59	D+
50-54	D
0-49	F