

SCCH262 Fundamental Analytical Chemistry (2 credit)
Semester 1 Academic year 2025/2568

Date Thursday 9.30-11.30

Room SC1-160

Group ENNM2

Google classroom: **SCCH262-268_1/2568**

Class code: **qdiz7ovc**

Instructor: Tinnakorn Tiensing

E-mail: tinnakorn.tie@mahidol.ac.th

Lesson Plan

No	Date	Topics	Teaching activities	Instructors
1	7 Aug 2025	Introduction, sampling and sample preparation	Lecture Discussion	Tinnakorn Tiensing
2	14 Aug 2025	Error of the analysis & data analysis, method validation	Lecture Discussion	Tinnakorn Tiensing
3	21 Aug 2025	No class		
4	28 Aug 2025	Concentration, gravimetric and volumetric analysis	Lecture Discussion Exercise/Quiz	Tinnakorn Tiensing
5	4 Sep 2025	Titration methods and its application	Lecture Discussion Exercise	Tinnakorn Tiensing
6	11 Sep 2025	Titration methods and its application	Lecture Discussion Quiz	Tinnakorn Tiensing
7	18 Sep 2025	Titration methods and its application	Lecture Discussion Exercise	Tinnakorn Tiensing
8	25 Sep 2025	Titration methods and its application	Lecture Discussion Quiz	Tinnakorn Tiensing
9	29 Sep - 3 Oct 2025 MIDTERM Exam			
10	9 -10 Oct 2025 No Class Mahidol's Graduation ceremony			
11	16 Oct 2025	Acid-base equilibrium and buffer concept	Lecture Discussion Exercise	Tinnakorn Tiensing
12	23 Oct 2025	King Chulalongkorn Day No class		
13	30 Oct 2025	Introduction to Spectrophotometry	Lecture Discussion	Tinnakorn Tiensing
14	6 Nov 2025	Molecular absorption-emission spectrophotometry	Lecture Discussion	Tinnakorn Tiensing
15	13 Nov 2025	Atomic absorption-emission spectrophotometry	Lecture Discussion Exercise	Tinnakorn Tiensing
16	20 Nov 2025	Electrochemistry technique: Potentiometry	Lecture Discussion	Tinnakorn Tiensing
17	27 Nov 2027	Ion selective electrode and pH measurement	Lecture Discussion Quiz	Tinnakorn Tiensing
18	1 - 12 Dec 2025 Final Exam			

Score criteria	Score (%)
Quiz	10
Evaluate from home work	10
Solving exercise	10
Midterm Exam	35
Final Exam	35

Score (%)	Symbols
80 – 100	A
70 – 79	B+
65 – 69	B
60 – 64	C+
55 – 59	C
50 – 54	D+
45 – 49	D
0 – 44	F

Reference;

- 1) Jeffery, G.H.; Bassett, J.; Mendham, J.; Denney, R.C. **Vogel's textbook** of quantitative chemical analysis, Essex (UK): Pearson Education Limited, **2000**. (or latest edition)
- 2) SKOOG, D.A.; WEST D.M and HOLLER F.J, **Fundamentals of analytical chemistry**, 9th ed., **2014**. (or latest edition)
- 3) Skoog, D. A.; West, D. M. and Holler. J. **Fundamental of Analytical Chemistry** (7th ed.), Suanders College Publishing, **1997**. (or latest edition)
- 4) Daniel C. Harris. Quantitative Chemical Analysis, 8th ed., **2010**.
- 5) Kellner, R.; Mermet, J. M.; Otto, M.; Valcarcel, M; Widmer, J. M. Analytical Chemistry: A Modern Approach to Analytical Science, 2nd Edition, Wiley-VCH Verlag GmbH & Co. KGaA, Weiheim, **2004**.
- 6) Menham, J.; Denney, R. C. and Thomas, M. Vogel's textbook of Quantitative Chemical Analysis. PRENTICE HALL, Pearson education Limited, Essex, **2000**.
- 7) Miller, J. C. and Miller, J. N. Statistics for Analytical Chemistry (2nd Edition) Ellis Horwood Limited, Sussex, **1998**.
- 8) Wang, J. Electroanalytical Chemistry, John Wiley & Son Inc., New York, **2006**.