

SCCH 268 Analytical Chemistry Laboratory
Semester 1 Academic year 2025/2568

Date Friday 13.30-16.30 **Group** ENNM2

Talk lab __SC1-160_Lab SC4-304

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

Class code: **qdiz7ovc**

Instructor: Dr.Tinnakorn Teinsing

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Assoc. Prof. Dr. Kanchana Uraisin

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Scientist: Weerawan Waiyawat

Teaching assistance: Kamolrat Liabsiri

Lesson Plan

Date	Topics	Teaching activities	Instructors
8 Aug 2025	1. LAB introduction 2. Data analysis, accuracy & precision	Lab safety Lab room	Dr. Tinnakorn
15 Aug 2025	3. Acid-base titration 1 - Standardization of HCl and NaOH	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr. Tinnakorn
22 Aug 2025	4. Acid-base titration 2 - Quantitative analysis of boric and antacid tablet	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Assoc. Prof. Dr. Kanchana Uraisin
29 Aug 2025	5. Complexometric titration 1+2 - Standardization of Mg solution and Determination of Ca-Mg in milk sample	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr. Tinnakorn
5 Sep 2025	6. Iodometry and iodimetry titration 1 + 2 - Standardization and formalin analysis	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr. Tinnakorn
12 Sep 2025	7. Precipitation titration	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr. Tinnakorn
19 Sep 2025	8. Practical exam titration	Lab practical exam	Dr. Tinnakorn
26 Sep 2025	-	No Lab	
29 Sep - 3 Oct 2025 MIDTERM Exam		No Lab	
9 -10 Oct 2025 No Class Mahidol's Graduation ceremony			
17 Oct 2025	9. Colorimetric analysis- Absorption spectrum of color dyes	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr.Tinnakorn

Date	Topics	Teaching activities	Instructors
24 Oct 2025	10. Colorimetric analysis - Fe-o-phenanthroline complex analysis	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Assoc. Prof. Dr. Kanchana Uraisin
31 Oct 2025	12. Determination of phosphate in water sample by vanadomolybdophosphoric acid colorimetric method	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr. Tinnakorn
7 Nov 2025	12. pH measurement	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr. Tinnakorn
14 Nov 2025	13. Preparation of buffer solution and determination of buffer capacity	Brief Lab Quiz lab instruction/ plan Lab practice Writing lab report	Dr. Tinnakorn
21 Nov 2025	14. Practical exam	Lab practical exam	Dr. Tinnakorn
28 Nov 2025	Glassware check - no lab		
1 - 12 Dec 2024 Final Exam		No paper exam	

Learning outcomes measurements	Weight (%)
Quiz before experiment	10
Skills on using glassware / equipment	10
Practical examination	30
Evaluate lab report	30
Home work / assignment	10
Evaluate lab planning /attendance	10
	100

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

References and suggested materials

- 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) Daniel C. Harris. Quantitative Chemical Analysis. 8th ed., 2010.
- 4) Standard Methods for the Examination for Water and Wastes Water, APHA, AWWA, WEF, 2023, Part 4500-P.
- 5) LAB Direction SCCH 268 or SCCH 219
- 6) <http://www.rsc.org/>