

SCCT 212 Instrumental Analysis
Semester I Academic Year 2025/2568

Date: Tue 9.30-12.20 (3 hrs/week) Room **SC2-154** @Salaya

Group SCCT2

Google classroom: [SCCT212_1/2568](#) Class code: [ti4aa6pa](#)

Instructors: Duangjai Nacapricha (duangjai.nac@mahidol.ac.th);

Kalyanee Sirisinha (kalyanee.sir@mahidol.ac.th);

Rattikan Chantiwas (rattikan.cha@mahidol.ac.th);

Tinnakorn Tiensing (tinnakorn.tie@mahidol.ac.th);

Time Table

Week	Tue - Date	Topics	Hour	Instructor
1	5 Aug 2025	Review concepts of electrochemistry	3	Duangjai Nacapricha
2	12 Aug 2025	Holiday – Mother's Day		No class
3	19 Aug 2025	Voltammetry	3	Duangjai Nacapricha
4	26 Aug 2025	Current in Voltammetry	3	Duangjai Nacapricha
5	2 Sep 2025	Amperometry and its applications	3	Duangjai Nacapricha
6	9 Sep 2025	Amperometry and its applications	3	Duangjai Nacapricha
7	16 Sep 2025	Thermal analysis techniques	3	Kalyanee Sirisinha
8	23 Sep 2025	Thermal analysis techniques	3	Kalyanee Sirisinha
9	29 Sep - 3 Oct 2025 MIDTERM Exam			
10	7 Oct 2025	Fluorescence, Raman and IR spectrophotometry	3	Rattikan Chantiwas
11	14 Oct 2025	Electrophoresis technique	3	Rattikan Chantiwas
12	21 Oct 2025	Electrophoresis technique	3	Rattikan Chantiwas
13	28 Oct 2025	Separation Techniques	3	Tinnakorn Tiensing
14	4 Nov 2025	Liquid Chromatography techniques	3	Tinnakorn Tiensing
15	11 Nov 2025	Gas Chromatography techniques	3	Tinnakorn Tiensing
16	18 Nov 2025	Application of chromatography techniques	3	Tinnakorn Tiensing
17	25 Nov 2025	Mass spectrometry and Hyphenated LC/GC	3	Tinnakorn Tiensing
18	1 - 12 Dec 2025 Final Exam			

ส.6 - อ.7 ก.ย. 2568 มหิดลวิชาการ

พ.24 ก.ย. 2568 วันมหิดล (ศาลายา งดเรียน)

พ.9 - ศ.10 ต.ค. 2568 วันรับพระราชทานปริญญาบัตรมหิดล

อ.21 ต.ค. 2568 วันคล้ายวันสถาปนาคณะวิทยาศาสตร์ งดเรียนพญาไท

Evaluation: Grade system A, B+, B, C+, C, D+, D and F

	Score
Written midterm exam	35
Written final exam	35
Quiz	15
Assignment: Exercise, Homework, Presentation, Attendance	15
Total	100

Score (%)	Grade
80 - 100	A
75 - 79	B+
70 - 74	B
65 - 69	C+
55 - 64	C
45 - 54	D+
40 - 44	D
< 39	F

Textbooks / electronic database

- 1) Douglas A. SKOOG, F. James Holler, Timothy A. Nieman, Principles of Instrumental Analysis, Saunders College Pub., 1998/ or latest version.
- 2) Douglas A. SKOOG, F. James Holler, Stanley R. Crouch, Principles of Instrumental Analysis, Thomson Higher Education, 2007/ or latest version.
- 3) D. A. SKOOG, F. J. Holler, D. M. WEST, Fundamentals of analytical chemistry, 9th ed., 2014/ 10th ed., 2022.
- 4) Daniel C. Harris. Quantitative Chemical Analysis, 8th ed., 2010.
- 5) J. Wang, Electroanalytical Chemistry, John Wiley & Son Inc., New York, 2006.
- 6) R. Kellner. J. M. Mermet, M. Otto, M. Valcarcel, J. M. Widmer, Analytical Chemistry: A Modern Approach to Analytical Science, 2nd ed., Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, 2004.
- 7) J. Menham, R. C. Denney, and M. Thomas, Vogel's textbook of Quantitative Chemical Analysis. PRENTICE HALL, Pearson education Limited, Essex, 2000.
- 8) G. H. Jeffery, J. Bassett, J. Mendham, R. C. Denney, Vogel's textbook of quantitative chemical analysis, Essex (UK): Pearson Education Limited, 2000 (or other years).
- 9) https://www.asdlib.org/onlineArticles/ecourseware/Text_Files.html