

2020 Spring
458-622
Advanced Surface Chemistry
표면화학특론

LECTURER: Professor Yung-Eun Sung (성영은)
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OUTLINE

This class deals with basic principles of surface and interface at solid and liquid. Those include structures and adsorbates, experimental techniques, thermodynamics & kinetics on surface, liquid interfaces, and application to catalysis and nanoscience.

TEXTBOOKS

Kurt W. Kolasinski, Surface Science – Foundations of Catalysis and Nanoscience (4th edition), Wiley. 2020. (3rd edition(2012) and old Versions are all right.) (e-book (3rd edition) available in SNU Library!!)

REFERENCES

G. A. Somorjai, Introduction to Surface Chemistry and Catalysis, John Wiley.
(e-Book available in SNU Library)
Duncan J. Shaw, Introduction to Colloid and Surface Chemistry, John Wiley.
(Korean reference: 임재석, 임굉, 콜로이드과학 및 표면화학, 내하출판사, 2015)

SCHEDULES (may be modified, & online lectures (online, ZOOM in eTL))

1. Introduction to Surfaces (Introduction) (1 week)
2. Surface and Adsorbate Structure (ch.1) (2-3 weeks)
3. Experimental Probes and Techniques (ch.2) (4-5 weeks)
4. Chemisorption, Physisorption and Dynamics (ch.3) (6-7 weeks)
5. Thermodynamics and Kinetics of Adsorption and Desorption (ch.4) (8-9 weeks)
6. Liquid Interfaces (ch.5 and others) (10-13 weeks including Midterm Exam)
7. Application to Catalysis (ch.6) (14 weeks)
8. Application to Nanoscience (ch.7) (15 weeks)

GRADING ($\geq B^+$ <80%, exception in this semester)

Midterm Exam 40%, Final Exam 40%, Homeworks & Attendance 20 %

LECTURE ROOM & TIME: Rm #302-409, 11:00-12:15 Mon. & Wed. (+10 min for Q/A)
Make-up lecture (Midterm Exam): May 23(Sat) 11:00~13:45 or

OFFICE HOUR: Rm #302-729, 13:00-16:00 Mon. & Wed.

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*Lecture in Korean due to online