2019 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 (3rd edition), Wiley. 2012. (old Versions are all right.)

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 (will be modified later)

1. Introduction to Surface & Interface (Introduction) (1 week)
2. Surface and Adsorbate Structure (ch.1) (1-2 weeks)
3. Experimental Probes and Techniques (ch.2) (3-4 weeks)
4. Chemisorption, Physisorption and Dynamics (ch.3) (5-6 weeks)
5. Thermodynamics and Kinetics of Adsorption and Desorption (ch.4) (7-8 weeks)

6-1. Thermodynamics of Surface and Interface (ch.5) (9-10 weeks)
6-2. Liquid Interfaces (ch.5) (11-13 weeks)

7. Application to Catalysis (ch.6) (14 week)
8. Application to Nanoscience (ch.7, 8) (15 week)

GRADING ($\geq B^+$ <80%)

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

LECTURE ROOM & TIME: Rm #302-720, 12:30-13:45 Mon. & Wed.

OFFICE HOUR: Rm #302-729, 14:00-17:00 Mon. & Wed.
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