

Course Title and credit:

Fundamental Photo-science , 2

Appropriate grade level and Eligible Departments:

1st-5th grades

Lecturer(s):

Nobuhiro Kosugi (ext. 7390, kosugi@ims.ac.jp, Research Office Building 211)

Eiji Sigemasa (ext. 7400, sigemasa@ims.ac.jp, UVSOR 201)

Schedule: 7/21,22,23,24

Place: Research Office Building 301

Prerequisites and Styles:**Course objectives:**

Learn several aspects (fundamentals and case studies) of electronic and photoelectron spectroscopy applied to electronic structure study of atoms and molecules using vacuum ultraviolet light and soft X-rays..

Contents:

1. Basic principles of electronic and photoelectron spectroscopy
2. Electronic structure and angular momentum
3. Atomic and molecular electronic states
4. Electronic transition probabilities
5. Experimental Techniques
 - a) Samples and spectral broadening
 - b) Lasers
 - c) Optical spectroscopy
 - d) Photoelectron spectroscopy

Textbook:

A.M. Ellis, M. Feher, T.G. Wright, "Electronic and Photoelectron Spectroscopy: Fundamentals and Case Studies," Cambridge University Press..

Grades:

Based on report submission and class attendance. Minimum score of 60 % is needed for obtaining the credit.