Course Description

Advanced Physical Chemistry
Advanced theories of material structures, states and energy levels are lectured in this course
Advanced Chemical Reaction Dynamics
Advanced theories of chemical reaction and reaction mechanism are lectured in this course.
Advanced Molecular Spectroscopy
Advanced theories of molecular spectroscopy are lectured in this course.
Advanced Organic Chemistry
Important topics and recent development in organic chemistry, which are related to reaction mechanism, catalyst, and synthetic chemistry, are discussed and lectured in this course.
Advanced Polymer Chemistry
In Advanced Polymer Chemistry course, learning outcomes are to gain a set of important modern concepts and applications of functional polymers which are important in polymer-based materials industry.
Advanced Inorganic Chemistry
Systematic presentation of the chemical applications of group theory, ligand filed theory and molecular orbital theory. Emphasis on electronic structure, the electronic, vibrational, and magnetic properties of transition metal complexes.
Special Topics in Inorganic Chemistry
Discusses interesting topics of current research in inorganic chemistry.
Coordination Chemistry
Examination of variouscoordination metal complexes. Emphasizes chemical properties, mechanisms of their reactions, structure-reactivity relationships.
Advanced Organometallic Chemistry

A comprehensive treatment of organometallic compounds of the transition metals with emphasis on structure, bonding, synthesis, and mechanism.
Supramolecular Chemistry
Study on molecular recognition and self-assembly in supramolecules with understanding non-covalent interactions.
Nano Chemistry
Nanotechnology is rapidly expanding fields of science playing an integral part in development of most modern technologies. This course introduces the concepts necessary to explain chemical & physical properties of materials used for nanotechnology.
Bio-inorganic Chemistry
Delineates principles that form the basis for understanding how metal ions and metal complexes function in biology.
Advanced Analytical Chemistry
Lectures on cutting-edge analytical methods and applications in practical context.
Advanced Electrochemistry
In-depth knowledge and discussion on fundamental electrochemistry to its wide-spread application.
Introduction to Secondary Batteries
Basic concepts to learn principles, recent developments, and related materials of lithium ion batteries are introduced.
Advanced Biochemistry
This course deals with the principles and applications of biochemical reactions. This course is designed to study the applicable biomaterials bythe deep understanding of basic biochemical knowledge.
Protein Chemistry

Protein chemistry mainly deals with the interactions between protein's active sites and substrates concerning mechanism, kinetics and its applications.
Medicinal Chemistry
Medicinal chemistryis disciplines at the intersection of chemistry, especially synthetic organic chemistry, and pharmacology and various other biological specialties, where they are involved with design, chemical synthesis and development for market of pharmaceutical agents, or bio-active molecules (drugs).
Special Topics in Physical Chemistry
This course covers the exciting papers that are the subject of recent interest in Physical related research fields.
Special Topics in Biochemistry
This course covers the exciting papers that are the subject of recent interest in bio related research fields.
Seminar in Applied Chemistry (1)
In this course, we will have a presentation and discussion time about recent trends in various research areas and student's experimental topics in their lab.
Seminar in Applied Chemsitry (2)
In this course, we will have a presentation and discussion time about recent trends in various research areas and student's experimental topics in their lab.
Seminar in Applied Chemistry (3)
In this course, we will have a presentation and discussion time about recent trends in various research areas.
Seminar in Applied Chemisitry (4)
In this course, we will have a presentation and discussion time about recent trends in various research areas.

Special Topics in Nanomedicine
In this course, we will study on recent research topics and future prospects in diagnostic and therapeutic technology of intractable diseases based on nanotechnology.
Chemistry in Energy Materials
Important research developments in energy transformation and storage devices are discussed. To obtain basic concepts of energy materials, properties and recent applications are lectured in this course.
Chemsitry in Catalysis
Recent developments in heterogeneous and homogeneous catalysts and their applications are discussed, and important concepts of basic catalytic reactions are provided in this course.
Biofunctional Molecular Chemistry
Understand and application the structure and activity of biofunctional molecules and the functions occurring in vivo on the basis of chemical principles.
Protein Molecular Chemistry
In this course, understand the mechanisms of protein stabilization, action, and biosynthesis based on molecular structure of protein molecules are discussed.
Special Topics in Medicinal Chemistry
We will explore examples of the latest drug development and learn about the developmental background, experimental method, scope of use, ripple effect, and drug target design method
Nano-oncology
We will introduce and review recent research trends and research results on cancer diagnosis and treatment technology using nanotechnology.