

chemistry. Live chemical demonstrations, online resources and case studies will be provided when applicable. About 4 to 5 topics from the above list will be discussed each time.

CHEM 1670 Better Living through Technologies and Innovations (3,3,0)

Prerequisite: A-Level Chemistry

Designed as a free elective for science majors, the course aims to demonstrate, through daily life examples, the many important contributions and relevance of chemical sciences and technology to the betterment of humankind.

CHEM 2005 General Chemistry (3,3,0) (E)

Prerequisite: CHEM 1005 Introduction to Chemistry

Co-requisite: CHEM 2006 Integrated Tutorials I

To provide students with a good grasp of the fundamental concepts and basic principles and skills in chemistry necessary for the study of more advanced courses.

CHEM 2006 Integrated Chemistry Tutorials I (0,0,1) (E)

Co-requisite: CHEM 2008 Organic Chemistry I or CHEM 2005 General Chemistry

To enhance in-depth understanding of the lecture materials presented in the courses CHEM 2008 Organic Chemistry I and CHEM 2005 General Chemistry through small group discussion and guided problem solving.

CHEM 2007 Integrated Chemistry Tutorials II (0,0,1)

Co-requisite: CHEM 2009 Organic Chemistry II, CHEM 2015 Analytical Chemistry

To enhance in-depth understanding of the lecture materials presented in the courses CHEM 2009 Organic Chemistry II and CHEM 2015 Analytical Chemistry through small group discussion and guided problem solving.

CHEM 2008-9 Organic Chemistry I and II (3,3,0) (E)

Prerequisite: CHEM 1005 Introduction to Chemistry or CHEM 1006 Chemistry for Life Sciences or with consent of instructors

Co-requisite: CHEM 2006 Integrated Chemistry Tutorials I (for CHEM 2008) and CHEM 2007 Integrated Chemistry Tutorials II (for CHEM 2009)

To introduce students to the fundamentals of the mechanistic approach for organic reactions, to stress structures and syntheses, with special emphasis on stereochemistry, conformation and the use of spectroscopic techniques. This course is not open to Analytical and Testing Sciences major students.

CHEM 2015 Analytical Chemistry (3,3,0) (E)

Prerequisite: CHEM 1005 Introduction to Chemistry

Co-requisite: CHEM 2007 Integrated Chemistry Tutorials II or CHEM 2045 Analytical & Testing Science Tutorials II

This course aims to educate students to understand the concepts of chemical analysis and to apply these fundamental principles to the analysis of environmental, clinical, industrial and other applied chemical systems.

CHEM 2016 Analytical Chemistry Laboratory (1,0,3)

Prerequisite: CHEM 1005 Introduction to Chemistry

Co-requisite: CHEM 2015 Analytical Chemistry

This course aims to educate students to understand the concepts of chemical analysis and to apply these fundamental principles to the analysis of environmental, clinical, industrial and other applied chemical systems.

CHEM 2017 Physical Chemistry I (3.5,3,1) (E)

Prerequisite: CHEM 1005 Introduction To Chemistry

Co-requisite: CHEM 2005 General Chemistry

This is a foundation course in modern chemistry which provides students with fundamental concepts of physical chemistry for their further studies in most branches of advanced chemistry. The course provides students with the concepts of chemical

thermodynamics and its applications in phase equilibria and solution electrochemistry.

CHEM 2018-9 Organic Chemistry Laboratory I and II (1,0,3)

Prerequisite: CHEM 1005 Introduction to Chemistry or CHEM 1006 Chemistry for Life Sciences or with consent of instructors (for CHEM 2018) and CHEM 2018 (for CHEM 2019)

Co-requisite: CHEM 2008 Organic Chemistry I (for CHEM 2018) and CHEM 2009 Organic Chemistry II (For CHEM 2019)

To make students familiar with all fundamental purification and separation techniques applicable in organic chemistry. To develop appreciation of the need for practical skill and the importance of performing different types of organic reactions.

CHEM 2025 Physical Chemistry Laboratory I (1,0,3)

Prerequisite: Chemistry major students

This course provides students with practical experimental knowledge/skills related to the principles acquired from CHEM2017 Physical Chemistry I.

CHEM 2035 Better Living through Technologies and Innovations (3,3,0)

Prerequisite: CHEM 1005 Introduction to Chemistry

Designed as a free elective for science majors, the course aims to demonstrate, through daily life examples, the many important contributions and relevance of chemical sciences and technology to the betterment of humankind.

CHEM 2036 Fundamentals of Organic Chemistry (3,3,0) (E)

Prerequisite: CHEM 1005 Introduction to Chemistry

Co-requisite: CHEM 2037 Analytical and Testing Sciences Tutorials I

This course describes functional group and mechanistic approaches in studying the chemistry of organic and biological compounds. Correlation between structures and properties/activities will be discussed. Important organic reactions will be discussed with special emphasis on stereochemistry, reaction mechanisms and the use of modern spectroscopic methods in structural determination.

CHEM 2037 Analytical and Testing Science Tutorials I (0,0,1) (E)

Co-requisite: CHEM 2036 Fundamentals of Organic Chemistry

This course enhances in-depth understanding of the lecture materials presented in the course CHEM 2036 Fundamentals of Organic Chemistry through small group discussion and guided problem solving.

CHEM 2045 Analytical and Testing Science Tutorials II (0,0,1)

Co-requisite: CHEM 2015 Analytical Chemistry and CHEM 2046 Physical and Inorganic Chemistry

This course enhances in-depth understanding of the lecture materials presented in the courses CHEM 2046 Physical and Inorganic Chemistry and CHEM 2015 Analytical Chemistry through small group discussion and guided problem solving.

CHEM 2046 Physical and Inorganic Chemistry (3,3,0) (E)

Prerequisite: CHEM 1005 Introduction to Chemistry

Co-requisite: CHEM 2045 Analytical and Testing Science Tutorials II

To provide students with a solid understanding of the fundamental concepts and physical principles in physical and inorganic chemistry. This course also aims at preparing the students for several advanced level courses.