CHEM 1005 Introduction to Chemistry (3,3,0) (E)
To provide all science students with some fundamental concepts and principles of chemistry as well as to demonstrate to them the diverse and important applications of chemistry in everyday life.

CHEM 1006 Chemistry for Life Sciences (3,3,0) (E)
This course is to provide students with some fundamental concepts and principles of chemistry as well as to demonstrate to them the diverse and important applications of chemistry in everyday life.

CHEM 1007 Chemistry for Life Sciences Laboratory (1,0,3)
Co-requisite: CHEM 1006 Chemistry for Life Sciences
This course aims to provide selected experiments on basic and physical chemistry which are relevant to pharmaceutical and biomedical studies and to illustrate basic chemical laboratory techniques. It also aims to provide clear illustrations of the chemical principles of thermodynamics, kinetics, stereochemistry discussed in the lecture course.

CHEM 1010 Ocean Voyage—Science in the Sea (3,3,0)
This course is for students who are curious to learn about the ocean and its science, history and more. Students will be introduced the concepts of marine and environmental science, as well as cultural, economic and political impacts to address marine-environmental issues at local and regional scales.

CHEM 1111-2 Organic Chemistry I & II (3,3,0)
Prerequisite: A-Level Chemistry or Foundation of Chemistry
Co-requisite: CHEM 1251 Integrated Chemistry Tutorials I (for CHEM 1111) and CHEM 1252 Integrated Chemistry Tutorials II (for CHEM 1112)
This course provides a mechanistic approach to the studies of organic reactions with special emphasis on stereochemistry, conformation and the use of modern spectroscopic methods in structure determination. It also stresses molecular rearrangement, aromatic chemistry, di- and poly-functional compounds, and the design of multi-step synthesis.

CHEM 1121-2 Organic Chemistry Laboratory I & II (1,0,3)
Prerequisite: A-Level Chemistry (for CHEM 1121) and CHEM 1121 Organic Chemistry Laboratory I (for CHEM 1122)
Co-requisite: CHEM 1111-2 Organic Chemistry I & II
This laboratory course is designed to familiarize the students with the application of organic chemistry. The preparation skills of the students are to be developed by performing different types of organic reactions. This course is open to Chemistry majors only.

CHEM 1220 Analytical Chemistry Laboratory (1,0,3)
Co-requisite: CHEM 1230 Analytical Chemistry
This course provides students with practical experience in applying the techniques studied in Analytical Chemistry and Instrumental Analysis to the solution of analytical problems, including those of a practical nature. This course is open to Chemistry majors only.

CHEM 1230 Analytical Chemistry (3,3,0)
Prerequisite: A-Level Chemistry or consent of instructor
Co-requisite: CHEM 1252 Integrated Chemistry Tutorials II or CHEM 2045 Analytical & Testing Science Tutorials II
The fundamental principles of classical quantitative chemical analysis, gravimetric and volumetric analysis will be introduced, together with the statistical treatment of analytical data.

CHEM 1251 Integrated Chemistry Tutorials I (0,0,1)
An integrated tutorial course supporting the courses CHEM 1260 Fundamentals of Chemistry and CHEM 1111 Organic Chemistry I. Students will engage in small group discussion and find solutions to assigned problems under the guidance of staff members of the Department of Chemistry.

CHEM 1252 Integrated Chemistry Tutorials II (0,0,1)
An integrated tutorial course supporting the courses CHEM 1112 Organic Chemistry II and CHEM 1230 Analytical Chemistry. Students will engage in small group discussion and find solutions to assigned problems under the guidance of staff members of the Department of Chemistry.

CHEM 1260 Fundamentals of Chemistry (3,3,0)
Prerequisite: A-Level Chemistry or Foundation of Chemistry
Co-requisite: CHEM 1251 Integrated Chemistry Tutorials I
This is intended to be the first chemistry programme course for all Chemistry majors. It is aimed to provide the students with a solid understanding of all the fundamental concepts and physical principles in chemistry necessary for the study of the more advanced or specialized programme course that follow. The topics discussed include atomic and molecular structures, chemical bonding, intermolecular forces and states of matter, and acid-base chemistry.

CHEM 1310 Physical Chemistry I (3.5,3,1)
Prerequisite: A-Level Chemistry
Co-requisite: CHEM 1252 Integrated Chemistry Tutorials II
This course provides students with the fundamental concepts of chemical thermodynamics and its application in electrochemistry solution properties, phase equilibria.

CHEM 1320 Physical Chemistry Laboratory I (1,0,3)
Prerequisite: CHEM 1330 Physical Chemistry I
CHEM 2320 Physical Chemistry Laboratory II (1,0,3)
Prerequisite: CHEM 2330 Physical Chemistry II
These courses provide students with practical work related to the principles studied in Physical Chemistry I & II. This course is open to Chemistry majors only.

CHEM 1510 Chemistry for Life Science (3,3,0)
Prerequisite: A-Level Chemistry or AS-Level Chemistry or consent of instructor
This course gives a detailed treatment of topics selected from Organic and Physical Chemistry. The discussion of stereochemistry, molecular rearrangements, and chemistry of carbonyl compounds, carbanions and natural products is to be preceded by bonding, thermodynamics, chemical kinetics and surface catalysis. This course is offered to Non-Major Students only.

CHEM 1520 Chemistry for Life Science Laboratory (1,0,3)
Prerequisite: A-Level Chemistry or AS-Level Chemistry or consent of instructor
Co-requisite: CHEM 1510 Chemistry for Life Science
Experiments are selected to illustrate the principles discussed in Chemistry for Life Science.

CHEM 1660 Better Living through Chemistry (3,3,0)
This course is designed for those non-science majors who are interested in the underlying chemistry of the many facets in modern living. Topics to be discussed include the chemistry of foods, cooking and wine-making, the chemistry of drugs, health and beauty products, the chemistry of new materials, the design of miniature machines and molecular devices, the chemcial tools in crime scene investigations, the molecular evolution of life, the chemistry of textiles and modern fabrics and archaeological 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.