major health problems that have had the greatest impact on our community and their causes, and the place of science and technology in dealing with related problems. The emphasis will be put on how scientific reasoning has been used to solve health problems. In this course, the roles of the individual and society in maintaining good public health and handling possible public health crises will also be explored. We will discuss, in particular, the responsibilities of individuals, health care professionals and government in maintaining and promoting public health. In this connection, individuals' rights in general and patients' rights in particular will be discussed, and moral issues arising from the allocation of public resources and using biotechnology in public health care will be examined.

LSE 7080 Science, Technology and (3,3,0) Environmental Ethics

This course deals with the ethical dilemma of modern application of science and technology in our pursuit of a better world. Science and technology have greatly enhanced the quality of our lives and our productivity. Yet, they do so at the expense of the environment and other life forms including our future generations. The ethical problem of the effects of science and technology on the environment will be tackled critically from historical, ethical, religious, and individual perspectives. This course mainly deals with the issues intended to match the requirements of the curriculum structure for liberal studies in secondary schools.

LSE 7090 Religion and Liberal Studies (3,3,0)

The study of religion is highly relevant to liberal studies. This course introduces to students the multifaceted relationship between religion and other components of culture, society, and the various dimensions of the human self. Different approaches to the study of religion will also be introduced.

LSE 7100 Cross-modular Topics in Liberal (3,3,0) Studies

Several issues which encompass multiple dimensions of themes pertinent to liberal studies will be explored, so that students' understanding of the interconnectedness of these areas of study and means of teaching them to senior secondary school students will be enhanced. Issues studied here will engage explorations into different perspectives of liberal studies and the insights gained by understanding their interrelationships. These perspectives will have three main areas of study—self and personal development; society and culture; science, technology and the environment— as well as any one or several of the issues involved in independent inquiry (e.g. media, education, religion, sports, arts, information and communication technology).

LSE 7111-2 Dissertation (3,*,*)

This is an optional class for competent students who have determined an appropriate topic through consultation with their chosen faculty adviser. Students will pursue in-depth research on a specific topic in Liberal Studies. Pertinent themes include those related to any of the three main areas of study—self and personal development; society and culture; science, technology and the environment—as well as topics itemized as relevant areas for independent inquiry which also engage more or less with the above three main areas of studies (e.g. media, education, religion, sports, arts, information and communication technology). The length of the dissertation should be either about 15,000 Chinese characters or about 12,000 English words (not including bibliography and footnotes).

MATH 1000 Supplementary Mathematics (0,3,0) (E) (Calculus and Linear Algebra)

This course deals with the basic linear algebra, elementary functions and elementary calculus. It provides a good foundation for the students who have not taken AL Pure Mathematics.

MATH 1005 Calculus (3,3,0) (E)

Prerequisite: HKDSE Mathematics-Compulsory Part

This course is intended to introduce general calculus of a single real variable. It will help students to understand the basic concepts and fundamental theories of differentiation, integration and their applications.

MATH 1111 Mathematical Analysis I (3,3,1) (E)

Prerequisite: Year I standing

This course deals with the basic theory of analysis in real-valued functions in single variable. It provides students with a good foundation for more advanced courses in the mathematical science major. Topics include real numbers, sequences and series, limit and continuity, differentiation and indefinite integral.

MATH 1112 Mathematical Analysis II (3,3,1) (E)

Prerequisite: MATH 1111 Mathematical Analysis I

This course deals with the basic theory of analysis in real-valued functions in single variable. It provides students with a good foundation for more advanced courses in the mathematical science major. Topics include sequences and series, Riemann integrals and power series.

MATH 1120 Linear Algebra (3,3,1) (E)

Prerequisite: Year I standing

Linear equations, matrices, determinants. Introduction to vector spaces and linear transformations and bases. Inner products and orthogonality. Eigenvalues and eigenvectors; diagonalization. Least squares problems. Applications. The course emphasizes matrix and vector calculations and applications. Numerical experiments with Matlab© in advanced lecture.

MATH 1130 Discrete Structures (3,2,1) (E)

This course addresses a variety of fundamental topics in computer science, including propositional logic, proof technique, set theory, combinatorics, graph theory, and Boolean algebra.

MATH 1140 Computational Mathematics (3,3,0) (E)

Prerequisite: MATH 1000 Supplementary Mathematics (Calculus and Linear Algebra) or Grade D or above in AL Pure Mathematics

This course aims to introduce Computer Science major students to the basic concepts in modern computational mathematics and its application. It provides various solid fundamental concepts and knowledge for modelling, real life application and optimization. Topics include advanced vector Algebra, number system, linear systems, various numerical methods, power method, numerical optimization and multivariable calculus. Practical applications and programming techniques are both emphasized.

MATH 1205 Discrete Mathematics (3,3,0) (E)

Prerequisite: HKDSE Mathematics-Compulsory Part

This course integrates the fundamental topics in discrete mathematics and linear system. These topics, including propositional logic, proof methods, set theory, combinatorics, graph algorithms, Boolean algebra, and system of linear equations, are essential for precise processing of information.

MATH 1550 Calculus and Linear Algebra (3,3,0) (E)

This course introduces topics in linear algebra, mathematical analysis and differential equations. Applications to chemistry are provided.

MATH 1570 Advanced Calculus (3,3,0) (E)

Prerequisite: Year I standing

This course gives students fundamental mathematical knowledge in a wide variety of areas including vector algebra, vector differentiation and integration, as well as an introduction to baisc linear algebra.

MATH 1590 Calculus and Linear Algebra for (3,3,0) (E) Chemistry

This course introduces topics in linear algebra, mathematical analysis and differential equations. Applications to chemistry are provided.