

and handling possible public health crises. 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 Environmental Ethics (3,3,0)

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.

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 advisor. Students will pursue in-depth research on a specific topic in Ethics and Public Affairs. Pertinent themes include those related to any of the three main areas of study—society and culture; ethics and public affairs; 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).

LSE 7120 Critical Thinking for Public Affairs (3,3,0)

To tackle and resolve many issues in ethics and public affairs demands strong analytical power and good skills of critical thinking. This course provides students a basic introduction to critical thinking, with the emphasis on applications to issues in ethics and public affairs. Students in this course are expected to learn the basic skills in logico-linguistic analysis, the detection of fallacies and logical and scientific methods.

LSE 7130 Social Justice (3,3,0)

This course introduces basic concepts of social and political philosophy, including the justification of the state, the nature of social life, the relation between individuals and the collective, the ideas of liberty, right, good, etc. It focuses on major philosophical theories of distributive justice, especially the debates among Rawlsian liberalism, libertarianism and communitarianism. It will also explore the implications of these debates upon various concrete social issues, particularly under the Hong Kong context.

LSE 7140 Law, Liberty and Morality (3,3,0)

The course will address the big question, "What acts may the state rightly make criminal?" We will discuss four liberty-limiting, or coercion-legitimizing, principles in this course even though the famous 19th century philosopher John Stuart Mill argues that the harm-to-others principle is the only legitimate liberty-limiting principle. The other principles that we will discuss are: (1) the offense principle: it is necessary to prevent hurt or offence (as opposed to harm) to others; (2) legal paternalism: it is necessary to prevent harm to the actor herself; and (3) legal moralism: it is necessary to prevent immoral conduct whether or not it harms anyone. Relevant case studies will be conducted for each of these four principles.

LSE 7150 Human Rights in a Multicultural World (3,3,0)

The course will help students reflect on the idea of human rights from the perspectives of major philosophical and religious traditions in the contemporary multicultural world. The contents will cover basic concepts of rights, the historical

development of these ideas, and the perspectives of different philosophical traditions (such as liberalism, utilitarianism and communitarianism), and world religions like Confucianism, Buddhism, and Christianity. Finally, the ethical foundation of rights, the balance between individual rights and good society, and conflicts between different kinds of human rights will be discussed.

MATH 1005 Calculus (3,3,1)

Antirequisite: MATH 1006 Advanced Calculus I

This course is intended to introduce general calculus of a single real variable. It will help students without background in calculus to gain the skills for algebraic manipulations for calculus, understand the basic concepts and fundamental theories of differentiation, integration and their applications.

MATH 1006 Advanced Calculus I (3,3,0)

Antirequisite: MATH 1005 Calculus

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, limit and continuity, differentiation, and integration.

MATH 1007 Delicate Mathematics Chemistry (3,3,0)

This course introduces some limitations of deductive procedures in mathematics. Interestingly, this kind of limitations can be found in various fields of mathematics such as geometry, algebra, and even mathematical logic.

MATH 1015 Introductory Statistics with Software (3,3,0)

This course introduces the statistical analysis using computer software. The students will learn how to choose the most appropriate methods for various practical problems. They will use computer to carry out the statistical procedures so that they do not need to memorize the formulae or find the different values by themselves. Only minimal theory behind the statistical methods will be introduced.

MATH 1016 Mathematics Behind Movies and Music (3,3,0)

Movies and music are art forms that are in many ways important to our lives, so is mathematics. Using a relaxed approach, this course illustrates numerous links between the art forms through movie and music clips playing and lectures to let the audience indulge themselves in movie and music appreciation from a different angle. Technical details and advanced proofs are circumvented to let the audience focus on the beautiful mathematical ideas behind the movies and music and to make the materials accessible to science and non-science majors. Mathematical puzzles have often been used in movie plots to symbolize intelligence. The first part of the course introduces some puzzles appeared in movie scenes, such as the water jug problem in *Die Hard* and the cooperative game in *A Beautiful Mind*. Mathematical tools and modelling techniques for solving some puzzles are introduced. The second part of the course deals with the application of mathematics in music. Topics include the construction of various tuning systems, the use of group theory to describe variations of a theme, and the use of probability theory to generate melody. To caution the audience, some false patterns in movies and music are demonstrated in the epilogue.

MATH 1017 Mathematics for Personal Financial Management (3,3,0)

This course introduces the mathematics behind different types of financial products of personal financial management with a balanced mix of computation and intuition. Particular attentions will be paid to annuities, such as savings plans and insurance plans, and amortization, such as credit cards, mortgages and car loans. The emphasis is on the formulation of problems mathematically arisen in these financial products. The actual calculations for the solutions will be done with the help of spreadsheet software.