interest. A partial list of the topics includes the following: Acoustics, Computer-controlled Instrumentation, Materials Science, Electronic Instrumentation, Lasers and Their Applications, Optoelectronics, Seminconductor Physics, and Spectroscopy. This course can be repeated for credit if the topic is different.

PHYS 7310 Introduction to Environmental Science (3,3,0)
After completion of this course, students will develop knowledge of (1) Ecosystem and (2) how the Ecosystem responses to environmental change due to population growth. Students should also comprehend the concepts of (3) physical and energy resources.

PHYS 7320 Principles and Technologies of Renewable Energy I (3,3,0)
This course introduce the principles and technologies of renewable energy. After completion of this course, students will learn (1) the origin of renewable energy flow; (2) blackbody radiation, solar spectrum and radiation; (3) the Earth's energy budget; (4) working principles of inorganic and organic photovoltaic cells; (5) device fabrication and architecture; (6) materials science and characterization methodology of photovoltaic cells; and (7) solar cell systems and installation.

PHYS 7330 Principles and Technologies of Renewable Energy II (3,3,0)
Prerequisite: PHYS 7320 Principles and Technologies of Renewable Energy I
After completion of this course, students will learn (1) the origin of renewable energy flow; (2) individual renewable energy sources, including solar radiation, wind, ocean waves, water flows and tides, heat flows and stored heat, biomass; (3) large scale energy conversion processes; and (4) power transmission and energy storage technologies.

PHYS 7340 Energy Harvesting and Energy Conservation (3,3,0)
Prerequisite: PHYS 7320 Principles and Technologies of Renewable Energy II
After completion of this course, students will learn the following: (1) renewable energy system analysis; (2) harvesting parasitic energy in daily life; (3) harvesting chemical energy; and (4) energy conservation.

PHYS 7350 GIS and Remote Sensing (3,3,0)
This course introduces the knowledge of atmospheric science and radiation, meteorological instrumentation, data inversion and retrieval algorithm for environmental monitoring. After completion of this course, students will learn (1) atmospheric physics; (2) radiation transfer, absorption and scattering of solar radiation in Earth's atmosphere; (3) sensors and measurement instrumentation for atmospheric parameters and constituents; (4) working principles of GPS and its data format, and GIS data representation; (5) satellite platform, airborne, and ground-based remote sensing methodology and instrumentation; and (6) data inversion methodology and algorithm.

PHYS 7360 Green Laboratory (3,0,3)
This laboratory course includes lectures, lab exercises, and project-based experiments. The laboratory provides a set of practical experiments, which related to (1) energy harvesting; (2) energy conversion efficiency; (3) energy conservation; (4) measurements of meteorological parameters and atmospheric constituents; (5) meteorological instrumentation; and (6) characterizations of energy harvesting materials and solar cells.

PHYS 7371-2 Project in Green Technology (6,0,3)
The objective of the course is to enable students to develop mastery of green technology related concepts, including energy harvesting, energy conservation, and pollution monitoring. Students are expected to perform a highly independent work. After completion of this course, they will be able to demonstrate their mastery of course materials and apply what they have learnt in implementing practical problems. Students may propose a topic or select a project from a list of topics provided by the Department.

PHYS 7380 Advanced Topics in Physics I (3,3,0)
PHYS 7390 Advanced Topics in Physics II (3,3,0)
PHYS 7400 Advanced Topics in Physics III (3,3,0)
Prerequisite: Postgraduate standing or consent of instructor
This course are advanced courses reflecting the research interests of the time and of the faculty. Fundamental physics concepts and skills acquired from upper level undergraduate courses will be applied in these courses. Topics offered include Materials Science, Scientific Instrumentation, Modern Optics, Optoelectronics, Semiconductor Physics, Biophysics, Nonlinear Dynamic and Spectroscopy. These courses can be repeated for credit if the topics are different.

PHYS 7410 Physics for Green Technology (3,3,0)
This course covers the physics for green technology and environmental science, including classical and fluid mechanics, thermodynamics, electrostatics and electricity, electromagnetic waves, optics, and modern physics.

PHYS 7420 Energy Usage, the Environment and Sustainability (3,3,0)
This course allows students to comprehend the significance of energy sources, their capacity, security, costs and their effects on the environment. The energy production and economic distinction between non-renewable (e.g. coal, gas, oil and nuclear fuel) and renewable sources (e.g. wood, biomass, hydro, solar, wind, geothermal and ocean) upon amongst different countries will be explored. In addition, an examination on the role of nuclear energy and its concerns in radiation, spent fuel waste disposal and safety issue are addressed.

POLS 1110 Introduction to Research Methods (3,2,1)
This course is designed to enhance students' ability to perceive, evaluate and understand political phenomena through a systematic introduction to a wide range of approaches, methods and theories of political science. Basic research procedures and academic writing are the other foci of the course. Students are encouraged to analyse and explain the current political development of Europe, mainland China or Hong Kong with the help of particular perspectives and research methods. This course is open to GIS and European Studies majors only.

POLS 1120 Introduction to Political Economy (3,2,1)
Political economy, with its roots in the European 17th and 18th centuries, was the forefather of what developed in the 20th century into the two separate disciplines of political science and economics. However, it has remained as that discipline which examines the relationship of the individual to society, the economy, and the state. It is the study of relations and choices, of structures and institutions, of scales from the personal and local to the national, international, and global. Its originators include Locke, Hobbes, Adam Smith, Karl Marx, and Max Weber. Including choice theory and market theory, system theory, development theory and public policy theory, political economy examines the historic and human behavioural linkages among values/morals, politics, economic reality and economic reasoning. This course is open to GIS majors and GIS minors only.

POLS 1140 Political Movements: Chinese and European (3,2,1)
Prerequisite: POLS 1510 Foundations of Political Science or POLS 1520 Government and Politics of China (for GIS majors); or EURO 1111 Europe: Unity amd Diversity (for European Studies majors)
The course examines three major political movements—nationalism, liberalism, and socialism—within a comparative