Science Courses for Non-Science Majors

Year 1

**BIOL 1003 Biology of Organisms**
Genetics, energetics, and the diversity of life. Properties of living organisms from the level of the cell through tissues, organs and organ systems, to the functioning, integrated organism. This course is offered on-campus and as a distance course. (Intended for non-majors and students requiring preparation for BIOL-1111 and BIOL-1101.) (Not counted for credit in any Faculty of Science program.) (2 lecture hours a week.)

**BIOL 1013 Organisms and the Environment**
Organisms interacting with other organisms and with their physical environment. Ecological impacts of human activity. This course is offered on-campus and as a distance course. (Intended for non-majors and students requiring preparation for BIOL-1111 and BIOL-1101.) (Not counted for credit in any Faculty of Science program.) (2 lecture hours a week.)

**CHEM 1000 Introduction to Chemistry**
This course stresses fundamental principles of chemistry, and is intended for students lacking SCH4U or equivalent, or requiring additional preparation for CHEM-1100 (General Chemistry I), CHEM-1103 (Topics in General Chemistry) and BIOC-1303 (Organic and Biological Chemistry for Health Sciences). Topics include: basic atomic theory, the periodic table, stoichiometry, properties of gases and liquids, acid-base concepts and chemical equilibria, organic and polymer chemistry. This course can serve as a prerequisite for CHEM-1100, but may not be taken for credit in any Science program. (4 lecture hours and 2 tutorial hours per week; or 3 lecture hours and 1 tutorial hour) (Students who first completed CHEM-1100 may not subsequently enrol in CHEM-1000.)

**COMP 1047 Computer Concepts for End-Users**
Introduction to the concepts of operation of a computer system, including hardware and software. Development of conceptual understanding of word processors, databases, spreadsheets, etc., and practical experience with their use. Networking concepts and data communication concepts will be introduced. The Internet will be introduced with students having access to internet resources. Management information systems including the systems development lifecycle will be discussed. Fundamental concepts of algorithm development and programming will be introduced. Hands-on experience with microcomputers as well as a distributed-computing environment will be involved. In addition to lecture time, laboratory/tutorial time may be scheduled as required. (May not be used to fulfill the major requirements of any major or joint major in Computer Science.) (3 lecture hours)

**PHYS 1000 Introduction to Astronomy I**
The solar system with emphasis on the results of recent space exploration. This is a descriptive course suitable for the non-scientist. (May be taken by B.Sc. students for credit, but does not count as a Physics course or other science course towards the fulfillment of the requirements for the B.Sc. degree.) (2 lecture hours a week.)

**PHYS 1010 Introduction to Astronomy II**
The stars, galaxies, including pulsars, black holes, and quasars. Current theories of the structure of the universe will be discussed. This is a descriptive course suitable for the non-scientist. (May be taken by B.Sc. students for credit, but does not count as a Physics course or other science course towards the fulfillment of the requirements for the B.Sc. degree.) (2 lecture hours a week.)
ESCI 1120 Introduction to Geomorphology
The landscapes of the earth, with particular reference to the glaciers, coastlines, rivers, and northern permafrost regions of Canada. (3 lecture hours a week.)

ESCI 1130 ESCI-1130. Atmosphere and Climate
An introduction to the atmosphere and the basic principles of meteorology and climatology. Topics include weather systems, atmospheric pollution and inadvertent climate modification, climate change and relationships between climate and living organisms. (3 lecture hours a week.)

ESCI 1000 Natural Hazards and Disasters
The Earth’s component systems and their interrelationships. Earth hazards and the Earth’s interior processes: volcanism and earthquakes. Hazards and surface processes: landslides and floods. Atmospheric hazards: storms, hurricanes and tornadoes. (May be taken by Science students for credit, but does not count as a Science option towards the fulfillment of the specified requirements for a Science degree). (2 lecture hours per week)

ESCI 1010 Our Changing Earth
Origin of the universe and solar system; focus on the Earth and moon; earliest life forms. Measurement of geological time. Global climatic change in geological history; drifting continents; deserts, floods and ice sheets. Fossils and evolution; extinctions and probable causes. Human evolution and migrations; early technologies. (May be taken by Science students for credit, but does not count as a Science option towards the fulfillment of the specified requirements for a Science degree). (2 lecture hours a week)

Year 2

WGST 2500 Women’s Bodies, Women’s Health
This course examines and critiques commonly cited biological evidence in support of sex differences and male superiority, including research on anatomy, genetics, hormones, and differential brain functioning. Students explore the social, cultural, and political meanings of the female body and consider how these understandings influence medical and non-medical definitions of “health” for women. Students investigate how sexism, classism, racism, ageism, and homophobia shape how individuals think about and value different female bodies. (Prerequisite: One Women’s and Gender Studies course or permission of the instructor.) (Can be taken for either Science or Social Science credit.)

CHEM 2003 Chemistry in the Marketplace
The basic notions of chemistry will be introduced and discussed in a qualitative manner with a view to understanding chemistry and materials encountered in everyday life. The course will provide an appreciation for the ubiquitous nature and importance of chemicals and chemical processes. Discussion will include a variety of topics such as chemistry in the home, plastics, drugs, cosmetics, biotechnology, chemistry and computer technology, nuclear power and pollution. The course is intended for students with no formal background in chemistry. (Not open to first-year students or students in any Science program. May not be used for credit in any Science program.) (2 lecture hours a week.)

COMP 2057 Introduction to the Internet
Students will be introduced to the Internet as a global information infrastructure, including fundamental concepts in protocols and services, packaging of data, and data transmission. Common tools and multimedia such as HTML, CSS, and CMS, used for the development of websites will also be introduced. Web page design, quality, accessibility and security issues will be discussed. How Web browsers and search engines work will be demonstrated. Social networks and other current Internet applications will be examined. In addition to lecture time, laboratory/ tutorial time may be scheduled as required. (Prerequisite: COMP-1047 or COMP-2067 or COMP-1400.) (May not be used to fulfill the major requirements of any major or joint major in Computer Science.) (3 lecture hours a week)
PHYS 2050 Physics and Society-The Past
Discoveries in astronomy have altered the way we perceive ourselves, our planet, and our place in the universe. This course, ‘From Antiquity to Newton’, reviews the contributions made by the Egyptians, Babylonians, Greeks, and Islamic cultures, together with medieval Christian views and on to the emergence of modern science. The course - which is a blend of physics, history, philosophy and religion - will also examine how we came to move from ‘geocentric’ to a ‘heliocentric’ view of the solar system, by examining the contributions of Copernicus, Brahe, Kepler, Galileo and Newton. (2 lecture hours a week.) Does not count towards the major requirements for a degree in the Department of Physics.

PHYS 2060 Physics and Society-The Present
Modern society is dominated by the dramatic development of physics and technology from the industrial revolution to the present. This development and its impact on society are explored in the course. A number of topics of current interest such as, nuclear energy, world energy supplies, pollution, global warming, climate change, and possible solutions to the energy crisis are discussed in detail. This course gives students who are majoring in the arts, humanities, business, law, and biomedical sciences an introduction to modern ideas in Physics and to see how these ideas affect our day-to-day lives. (2 lecture hours a week.) Does not count towards the major requirements for a degree in the Department of Physics.

Year 3

*NURS 3510 The Human Meaning of Death
An examination of the human experience of death and dying, the meaning of human life, ethical and cultural aspects, euthanasia, and advanced directives. Lectures, readings, films, and discussions will explore a variety of significant thinkers and concepts concerning death. Through various exercises and shared experiences, students will be encouraged to examine their own feelings and attitudes toward death. (Open to non-nursing students and may be taken as an Arts course by B.Sc.N. students.) (3 lecture hours a week.)

*NURS 3990. Selected Topics in Nursing
This selected topics course will offer students an opportunity to study in-depth a topic of interest to individuals preparing for a career in a health profession. The selection of topics will vary from term to term, depending on the expertise of available instructors. May include a lab component depending on the topic. Possible special topics include, Women’s Health, Indigenous Health, etc., but for a complete list of approved courses from within Nursing, please contact the Faculty of Nursing. (Open to non-Nursing students and may be taken to fulfill non-specified course requirements by BScN students.) (3 lecture hours a week, with possible lab component depending on the topic). (May be repeated for credit if content changes)

*Nursing course which can count as a Science credit

NOTE: This is a guide for reference only. Courses taken from the below departments can be used to fulfill the science course for non-science majors requirement.

Economics
Biology
Chemistry
Computer Science
Geology
Mathematics
Physics
Statistics
Environmental Science
Physical Geography