



THE UNIVERSITY OF WINNIPEG

For more information visit www.uwinnipeg.ca or contact a student recruitment officer at welcome@uwinnipeg.ca or 204.786.9844. In any case where The University of Winnipeg Course Calendar and this fact sheet differ, the current Calendar takes precedence.

Radiation Health and Safety 2012 - 2013

This program is being planned for full implementation in 2012/13, subject to final administrative approval. Please contact the department chair or designate for further information.

It is anticipated that Canada, along with many other nations, will face in the near future a critical shortage of appropriately-educated people with both theoretical and practical skill sets to maintain Canada's current radiation safety standards in the energy, security and health sectors. The goal of this 3-year B.Sc. program is to ensure that Canada is able to meet the expected staffing needs for this key safety related profession. The program has been checked as satisfying general requirements to enable a student to write exams leading to certification in Radiation Protection, which is done through the Canadian Radiation Protection Association. It is planned that this program will also have a coop component, enabling students to receive important hands-on training.

SAMPLE COURSES

Human Anatomy and Physiology: This course deals with the biological study of the human organism; microscopic and gross anatomy; cellular and general physiology, and human genetics.

Foundations of Physics I: This calculus-based course provides students with a working knowledge of the basic concepts underlying modern physics.

Radiation and the Environment: This course provides an overview of radiation in the environment and its effects on materials and living systems. Topics will include x-rays, ultraviolet, visible, infrared, microwave and radio-frequency emissions, acoustical and ultrasonic radiation, and alpha, beta and gamma radiation from radioactive sources.

Radiation Biology: This course deals with the fundamentals of radiation biology and focuses on the effects of radiation at a cellular and molecular level. This course will be given through CancerCare Manitoba.

Radiation Protection & Health Physics: This course reviews the fundamental concepts that are used to minimize risk when working with sources of ionizing radiation, with emphasis on the application of these concepts to radiation therapy. This course will be given through CancerCare Manitoba.

SAMPLE CAREERS

Health and radiation physicists work in many disciplines, including research, industry, education, environmental protection, and enforcement of government regulations. Some examples of these include:

- Research: Health physicists investigate the basic principles by which radiation interacts with matter and living systems.
- Industry: Applied health physicists draw upon their technical knowledge and varied experience to advise and make recommendations regarding methods and equipment for use in radiation work.
- Education: Health physicists working in education develop and instruct training programs for future health physicists.
- Regulatory enforcement: Health physicists involved in regulatory enforcement must have knowledge and experience concerning all types of radiation hazards in order to establish guidelines for adequate radiation control.

SAMPLE FIRST YEAR

NOTE: This sample first year is representative of the courses you may take. For many of our programs, you may choose another set of courses and still be well on your way to a degree. Also, for most programs you do not have to take 30 credit hours (five full courses) in your first year.

BIOL-1112/6: Human Anatomy and Physiology
STAT-1501/3: Elementary Biological Statistics I
MATH-1101/6: Introduction to Calculus
PHYS-1101/6: Foundations of Physics I
RHET-1105/3: Academic Writing
6 credit hours Humanities

REQUIRED HIGH SCHOOL COURSES

In addition to meeting The University of Winnipeg's general admission requirements, you must have **Physics 40S** and **Pre-Calculus Mathematics 40S** or **Applied Mathematics 40S**. However, interested and motivated students without these prerequisites are also encouraged to contact the department.

HOW TO APPLY – Domestic Student

Apply online at uwinnipeg.ca or pick up an Application for Admission from your high school counsellor's office or the Admissions Office at The University of Winnipeg. To meet Scholarship deadline submit your application and \$80 application fee.

HOW TO APPLY – International Student

Apply online at uwinnipeg.ca/index/intl-apply and submit all official documents by mail. To meet Scholarship deadline submit application, fee, and documents by March 1st. International application fee is \$100, which includes a one-time courier fee.

***Note:** Students should contact the education branch of CancerCare Manitoba to see how entry into required CancerCare Manitoba courses will be restricted according to the available training laboratory spaces at CancerCare Manitoba.*

CONTACT US

For further information, please contact

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