

Calendar Year: 2003-2004
Faculty: Arts & Science/Education

The Department of Physics

WHAT IS PHYSICS? Physics is the study of the structure and properties of matter from the subnuclear to the dimensions of the universe. The student who is interested in observing and understanding natural phenomena will enjoy the study of Physics.

CAREERS IN PHYSICS. An education in Physics opens the doors to careers in the fields of physics, biophysics, engineering, applied physics, astrophysics and geophysics, as well as the related fields of computing science, medical research and meteorology. A Physics degree can lead to a career in teaching at any level, from elementary school to university. It can also lead to a career in research in industry, government or academia.

PHYSICS AT THE UNIVERSITY OF LETHBRIDGE. The University of Lethbridge offers a comprehensive program in Physics, beginning with fundamental courses in Physics and Engineering in the first two years, followed by more detailed study at an advanced level. Students have the benefit of relatively small classes and easy access to faculty. Students also have an opportunity to participate in the active research programs of the Faculty members through Independent Studies and Summer employment.

Choosing an Education Major

The Faculty of Education offers 11 different majors that correspond to teaching subjects in Alberta schools. Admission is based on those majors, and you will be competing with other students in your major to gain entry to the Faculty. After you are admitted to the Faculty, you will work closely with a Faculty member in your major, particularly in Professional Semester II when student teachers work primarily in their subject area.

How do you choose an education major? Generally, students consider their favourite subject areas in which they did well at school. Your education major will be closely related to the major in your other degree, so you will also want to consider the areas of interest and expertise that you have developed in the university courses taken so far. For many

students, this is an easy decision — but if you are uncertain, try taking the introductory courses in several areas. Advisors are also excellent resources to help you explore your options.

You are encouraged to consider in your pre-Combined Degrees program the type of courses and background that will prepare you for teaching in a variety of situations. Many students find that their early objective to teach only at the elementary level or at the secondary school level is later modified or sometimes completely changed. It is therefore wise to select courses that will prepare you not only with breadth and richness for the classroom but may also provide the basis for the development of a teaching minor.

Program Planning Guide



The
University of
Lethbridge

This program guide is designed to help you plan your degree program. The information should help you keep track of your progress in your major, electives and all your degree requirements. Please remember that this is only a guide and not a graduation check. Students are responsible for the accuracy of their own programs. The guide should be used in conjunction with the University of Lethbridge Calendar, which is the final authority on all questions regarding program requirements and academic regulations.

Name: _____ ID: _____ E-Mail: _____

Advisor: _____ Date: _____ Calendar Year: 2003-2004

REQUIREMENTS FOR THE PHYSICS/SCIENCE EDUCATION MAJOR

The Program

The B.Sc./B.Ed. combined degrees with a major in Physics/Science Education require a minimum of 50 courses, including 30 in Arts and Science and 20 in Education. A minimum of 13 courses (10 courses in Physics plus three cognates) is required in the Physics major. A maximum of 17 courses in Physics is allowed.

Transfer Credit

Remember that you may use both University of Lethbridge credit and credit transferred from another college or university to meet degree and major requirements. Transfer credit may be either specified or unspecified. Specified credit is indicated on your transcript by the subject name and the specific number of the course, e.g., Physics 1000, 2600, etc. Unspecified credit (1XXX, 2XXX, etc.) is indicated by the subject name and level of the course in parentheses, e.g., Physics (1000 level), Physics (2000 level), etc.

Unspecified course credit means that the University of Lethbridge does not offer the same course you transferred in, but we recognize it and treat it as a regular course. An unspecified course would count as one of your maximum of 17 from one department, but it could not meet a specific course requirement. For example, if Physics 2000 is required in your program, you could not use Physics (2000 level) to fulfill that requirement.

How do I use the guide?

When you have met one of the requirements, place a check mark beside it. When all the requirements are checked, you should have completed the major.

Required Courses include:

- _____ I. ONE of the following:
 - _____ Physics 1000 - Introduction to Physics I
 - _____ Physics 1050 - Introduction to Biophysics
- _____ 2. Physics 2000 - Introduction to Physics II
- _____ 3. Physics 2020 - Physics and Society
- _____ 4. Physics 2120 - Introduction to Physics III
- _____ 5. Physics 2130 - Waves, Optics and Sound
- _____ 6. Physics 2150 - Wave Mechanics
- _____ 7. Physics 2600 - Electricity and Magnetism
- _____ 8. Physics 2900 - Studies in Experimental Physics (Series)
- _____ 9-10. TWO other courses offered by the Department of Physics, including courses in Astronomy or Engineering:
 - I. _____
 - 2. _____

SAMPLE COURSE SEQUENCING PLAN

B.Sc./B.Ed. - PHYSICS/SCIENCE EDUCATION

Shown below is a sample sequence of courses for your degree. If you follow this plan, you should be able to graduate in five years, provided you complete five courses per semester. This is just one example of how you could complete your major and degree requirements; you may find that a different sequence works as well as this one.

TERMS USED

GLER course: A course that could count toward the General Liberal Education Requirement. You may use courses in your major towards this 12-course requirement. See the 2003-2004 University of Lethbridge Calendar, Part 4 - Academic Regulations (pp.71-74) for complete information.

Elective: A course that you may choose freely from all those available and applicable to your program. Use courses inside or outside your major, bearing in mind any restrictions that may apply (e.g., a maximum of 17 courses from any one department).

Cognate: A course from a related discipline deemed to complement the chosen area of study and to encompass knowledge and skills essential to that area.

YEAR ONE	FALL	SPRING
	Mathematics 1560 (required cognate) Physics 1000 or 1050 GLER course GLER course GLER course	Mathematics 2560 (required cognate) Physics 2000 Physics 2020 GLER course GLER course
YEAR TWO	FALL	SPRING
	Education 2500* Mathematics 2570 (required cognate) Physics 2120 Physics 2130 GLER course	Physics 2150 Physics 2600 Physics 2900 GLER course GLER course
YEAR THREE	FALL	SPRING
	Professional Semester I	Physics elective** Elective 3000/4000 level Elective 3000/4000 level Elective 3000/4000 level Elective 3000/4000 level
YEAR FOUR	FALL	SPRING
	Physics elective** Elective 3000/4000 level Elective 3000/4000 level Elective 3000/4000 level Elective 3000/4000 level	Professional Semester II
YEAR FIVE	FALL	SPRING
	Professional Semester III	Education Foundation course Education elective Education elective Education elective Elective 3000/4000 level

Students with an Elementary Education focus will reverse these two semesters and complete PS III in the Spring.

* Education 2500 may also be taken in Spring and Summer Semester.

** Physics electives may be chosen from Physics, Engineering or Astronomy.

Note: Students wishing to include 3000-level Physics courses in their program must take Mathematics 2580 (Calculus IV) which is a prerequisite for such courses.

