Part Five

FACULTY OF ARTS AND SCIENCE

1. PHILOSOPHY AND PROGRAMS

The Faculty of Arts and Science offers instruction in the humanities and the natural, social and mathematical sciences. The Faculty of Arts and Science commits itself to the development of well-educated persons in three dimensions of liberal education: the liberal arts, general intellectual background and depth of knowledge, as broadly defined in the sections below:

a. The Liberal Arts

Literacy, the ability to read and interpret texts from diverse media, discourses and genres, and to express oneself in writing.

Information literacy, the ability to discern when information is needed, and the ability to find, evaluate and use information effectively.

Oral expression, the ability to listen and understand oral messages, and to express oneself effectively in a wide range of interpersonal contexts.

Numeracy, the ability to work effectively with quantitative ideas and mathematical relations.

Critical thinking, the ability to evaluate reasoning systematically and to argue well in support of deserving ideas.

Integrative thinking, the ability to make connections among diverse and superficially unconnected things.

Problem solving, the ability to recognize the problematic nature of the world and the ability to address those problems in a rigorous and imaginative way.

b. General Intellectual Background

A *sense of historical consciousness*; an awareness of events in time and their significance to each other, and the relation of oneself and one's community within them.

A wide-ranging grasp of what the *sciences tell us about the world* in which we live; their methods, limitations, purposes and interactions with the global community and the world.

Reflection of one's own values and an openness to change.

An understanding of, and a respect for, the causes and consequences of cultural, group and interpersonal *differences*.

A *critical understanding and an appreciation of the creative and aesthetic* dimensions of life.

The ability to *comprehend and analyze the many facets of social life*.

An *awareness of the body* and the physical contexts in which we apprehend reality, and the development of well-being.

c. Depth of Knowledge

A capacity to *comprehend the complexity of ideas* through sequential, developmental learning in a single subject or discipline.

The development of the competency to *do rigorous independent work* in a subject or discipline.

A *critical grasp* of the assumptions, arguments, approaches and controversies that have shaped particular claims and findings within a subject or discipline, and an understanding of the connections among disciplines.

At the University of Lethbridge, all first-year students, whatever their educational goals, enter the Faculty of Arts and Science. At least the first year of every degree program offered in the University is taken within the Faculty of Arts and Science. Students entering the Faculty may begin study for the Bachelor of Arts, Bachelor of Science or Bachelor of Arts and Science degrees; or prepare for later admission to the Bachelor of Education, Bachelor of Fine Arts, Bachelor of Management or Bachelor of Music programs. Students may also enrol in a pre-professional transfer program or they may commence University studies without committing themselves initially to a particular program.

Whatever their intentions, all students registered in first degree undergraduate programs in the Faculty fulfill the General Liberal Education Requirement which must be completed before graduation (except the Bachelor of Nursing and many post-diploma programs offered by the University of Lethbridge). This feature of the curriculum, which does not specify particular courses but provides a large field of choice, ensures basic familiarity with the different forms of knowledge, subject areas and methods in the Arts and Sciences.

Students may achieve diversity in their programs through Independent Studies, Interdisciplinary Studies and Applied Studies detailed elsewhere in this Part of the Calendar. Students may develop individual multidisciplinary majors, initiate courses in topics of special interest or propose degree programs suited to their own needs. In order to explore unfamiliar subjects without affecting their general academic standing, students may enrol in a limited number of courses on a Credit/Non-Credit basis.

The term "course" in this Calendar section means a course or course-equivalent such as Independent Study, offered by the Faculty of Arts and Science and studied for one semester, equivalent to three credit hours; except that Music Ensemble and Physical Activity courses count for one-half course credit, equivalent to 1.5 credit hours. The usual course load for a full-time student is five courses (15.0 credit hours) per semester. Students in good standing may take up to six courses (18.0 credit hours). A student on academic probation may not register in more than four courses (12.0 credit hours) in a semester. Students may accelerate their programs by carrying heavier study loads, by attending Summer Sessions or by working at Independent or Applied Studies during the intervals between academic terms. Students may also complete degree requirements with a diminished course load or entirely on a part-time basis.

It should be stressed that heavy course loads are a common cause of poor academic performance.

Six degree programs are offered in the Faculty of Arts and Science: Bachelor of Arts (B.A.), Bachelor of Science (B.Sc.), Bachelor of Arts and Science (BASc.), post-diploma Bachelor of Arts (B.A.) in Agricultural Studies, post-diploma Bachelor of Science (B.Sc.) in Agricultural Studies and post-diploma Bachelor of Science (B.Sc.) in Environmental Science. Details

of these degrees appear in the following pages. Please refer to **Section 14 (p. 77)** and **Part 11 - Combined Degrees** for information on Combined Degrees programs that include degrees offered by the Faculty of Arts and Science.

2. ADVISING AND INFORMATION

Academic advising in Arts and Science takes account of the variety of educational goals for which the Faculty wholly or partly provides and affiliates with other counselling services in the University.

a. Dean of Arts and Science

As well as being the administrative head of the Faculty of Arts and Science, the Dean of Arts and Science has direct responsibility for all academic programs and all years of study in Arts and Science. Appeals and issues of interpretation for students in Arts and Science should be directed to the Office of the Dean of Arts and Science.

b. Academic Advisors

Academic advising for the Faculty of Arts and Science is the responsibility of Academic Advisors, housed in the Students' Union Building, Level 0. Student Services Advisors are responsible for students who have completed fewer than 60 credit hours. Arts and Science Advisors are responsible for students who have completed 60 credit hours or more.

Students may consult Academic Advisors for assistance with a variety of academic concerns, including program planning, declaration of majors, General Majors, Multidisciplinary Majors, readmission, applications for Incompletes or Withdrawals with Cause, authorized study at another university and pre-professional transfer programs.

c. Department Advisors

Each Arts and Science department and program designates an advisor who knows in detail department courses, prerequisites and course schedules, as well as all aspects of the department's major program. In some departments, the Chair serves as department advisor.

Although the minimum requirements for each major program are fully detailed in this Calendar, students should plan their major programs in consultation with the department advisor in order to ensure meeting their own individual aims. These aims may include graduate school or professional school admission and vocational goals.

However, department advisors have no authority regarding degree, program or major requirements as set out in this Calendar. For information on such matters, students should consult Academic Advisors.

3. ACADEMIC STANDARDS

For graduation, students must attain a minimum cumulative grade point average of 2.00 on a minimum of 20 courses taken at the University of Lethbridge for credit toward the degree.

a. In Good Standing

To be in good standing, a student must maintain the following minimum cumulative grade point average (GPA):

Number of Completed Courses (includes transfer courses)	GPA (U of L)
1-10	1.70
11-20	1.85
21-40	2.00

Students in the post-diploma B.A. in Agricultural Studies, the post-diploma B.Sc. in Agricultural Studies and the post-diploma B.Sc. in Environmental Science programs will be considered with students who have completed 21 to 40 courses.

b. Probation

Students whose cumulative grade point average falls below the levels identified above are considered to be on academic probation. A student on academic probation may not register in more than four courses in a semester.

c. Required Withdrawal - Academic Indices

Students whose cumulative grade point average, at the end of the Spring semester, falls below the following are required to withdraw from the University:

Number of Completed Courses (includes transfer courses)	GPA (U of L)
6-10	1.50
11-20	1.70
21-30	1.85
31-40	2.00

Students in the post-diploma B.A. in Agricultural Studies, the post-diploma B.Sc. in Agricultural Studies and the post-diploma B.Sc. in Environmental Science programs will be considered with students who have completed 21 to 30 or 31 to 40 courses.

d. Required Withdrawal - Semesters on Probation

Students who, at the end of the Spring semester, have remained on academic probation for two or more consecutive semesters, are required to withdraw from the University.

Note: *The legislation, as indicated in c. and d., applies both to students registered in the Fall semester who did not continue in the Spring semester and to students registered in the Spring semester. All students' records are reviewed once per year, at the end of the Spring Semester.*

e. Readmission after Required Withdrawal

Students dismissed for academic reasons will not be granted readmission until the lapse of one year. An application for readmission must include evidence that the causes of previous unsatisfactory work have been identified and removed. Students required to withdraw twice are not usually eligible for readmission.

Tabula Rasa will be granted to all first-degree University of Lethbridge students registered in programs offered by the Faculty of Arts and Science upon readmission after required withdrawal for unsatisfactory academic performance. *Tabula Rasa* will be granted only once, upon readmission after the first required withdrawal. Credit is retained for all previous courses completed with a grade of A, B, C, C- or P, up to a limit of 20 courses, although the grades for these courses are not calculated in the GPA. Students readmitted after required withdrawal are readmitted on probation.

4. BACHELOR OF ARTS (B.A.)

a. General Requirements

1. Successful completion of at least 40 courses with a grade point average of a least 2.00.
2. Completion of the General Liberal Education Requirement. (see **Part 4 - Academic Regulations, Section 6, pp. 64-66**).
3. At least 25 courses not from the list Science Courses.
4. At least 10 Arts and Science courses from the 3000/4000 series, excluding Activity courses.
5. Not more than five Independent Study courses may be taken for credit towards the degree.
6. Not more than 10 courses may be taken at the 0100/1000 level for credit towards the degree. For 0100/1990-level courses which have a 0100/1000-level background or prerequisite, only the first course in the series counts toward this limit. Activity courses are also exempted from this limit.
7. Not more than 20 courses may be taken from one department for credit towards the degree.
8. Not more than four Activity courses (that is, courses with a weighting of 1.5 credit hours) except for Dramatic Arts majors, 8; Music majors, 8; Physical Education majors, 16; Recreation and Leisure Studies majors, 10, for credit towards the degree.
9. Not more than four university-accredited courses that are not Arts and Science courses may be taken for credit towards the degree. Courses cross-listed between the Faculty of Arts and Science and another Faculty do not count towards the limit outside Arts and Science.
10. All degree requirements must be completed within 20 years after admission to the program.

For purposes of these regulations, Mathematics and Computer Science; Geography and Archaeology; and French, German and Spanish may be considered separate departments.

b. Major Requirements

1. A major program must be chosen from the following: Anthropology, Art, Dramatic Arts, Economics, English, French, French/German, Geography, German, History, Music, Native American Studies, Philosophy, Physical Education, Political Science, Psychology, Religious Studies, Sociology, a General Major in the Humanities, a General Major in the Social Sciences, an approved multidisciplinary major in Agricultural Studies, Canadian Studies, Recreation and Leisure Studies or Urban and Regional Studies, or an individual multidisciplinary major program.
2. All specific requirements for a chosen major must be fulfilled. The specific requirements for each disciplinary major program are set out elsewhere in this section.
3. No more than 20 courses from one discipline may be counted toward a major program.
4. 20 courses are required in a multidisciplinary and in an individual multidisciplinary major.
5. At least one-half of the courses required in the major discipline must be completed at the University of Lethbridge.

For the specific requirements for multidisciplinary major programs, see the Program Coordinators or Assistant Dean (Curriculum and Advising).

5. BACHELOR OF SCIENCE (B.Sc.)

a. General Requirements

1. Successful completion of at least 40 courses with a grade point average of at least 2.00.
2. Completion of the General Liberal Education Requirement. (see **Part 4 - Academic Regulations, Section 6, pp. 64-66**).
3. At least 25 courses from the list Science Courses.
4. At least 10 Arts and Science courses from the 3000/4000 series, excluding Activity courses.
5. Not more than five Independent Study courses may be taken for credit towards the degree.
6. Not more than 10 courses at the 0100/1000 level may be taken for credit towards the degree. For 0100/1990-level courses which have a 0100/1000-level background or prerequisite, only the first course in the series counts toward this limit. Activity courses are also exempted from this limit.
7. Not more than 20 courses may be taken from one department for credit towards the degree.
8. Not more than four Activity courses (that is, courses with a weighting of 1.5 credit hours) except for Dramatic Arts majors, 8; Music majors, 8; Physical Education majors, 16; Recreation and Leisure Studies majors, 10, may be taken for credit towards the degree.
9. Not more than four university-accredited courses that are not Arts and Science courses. Courses cross-listed between the Faculty of Arts and Science

and another Faculty do not count towards the limit outside Arts and Science.

10. All degree requirements must be completed within 20 years after admission to the program.

For purposes of these regulations, Mathematics and Computer Science; Geography and Archaeology; and French, German and Spanish may be considered separate departments.

b. Major Requirements

1. A major program must be chosen from the following: Biological Sciences, Chemistry, Computer Science, Geography, Mathematics, Physics, Psychology, a General Major in the Sciences, an approved multidisciplinary major in Agricultural Biotechnology, Agricultural Studies, Biochemistry, Neuroscience or Urban and Regional Studies, or an individual multidisciplinary major program.
2. All specific requirements for a chosen major program must be fulfilled. Total requirements for each disciplinary major program are set out elsewhere in this section.
3. No more than 20 courses from one discipline may be counted toward a major program.
4. 20 courses are required in a multidisciplinary and individual multidisciplinary major. For the purposes of this regulation, a Biochemistry multidisciplinary major may not include more than 25 courses.
5. At least one-half of the courses required in the major discipline must be completed at the University of Lethbridge.

For the specific requirements for multidisciplinary major programs, see the Program Coordinators or Assistant Dean (Curriculum and Advising).

6. BACHELOR OF ARTS AND SCIENCE (BASc.)

a. General Requirements

1. Successful completion of at least 40 courses with a grade point average of at least 2.00.
2. Completion of the General Liberal Education Requirement. (see **Part 4 - Academic Regulations, Section 6, pp. 64-66**).
3. At least 10 Arts and Science courses from the 3000/4000 series, excluding Activity courses.
4. Not more than five Independent Study courses may be taken for credit towards the degree.
5. Not more than 10 courses at the 0100/1000 level may be taken for credit towards the degree. For 0100/1990-level courses which have a 0100/1000-level background or prerequisite, only the first course in the series counts towards this limit. Activity courses are also exempted from this limit.
6. Not more than 20 courses from one department may be taken for credit towards the degree.
7. Not more than four Activity courses (that is, courses with a weighting of 1.5 credit hours) except for Dramatic Arts majors, 8; Music majors, 8; Physical Education majors, 16; Recreation and Leisure Studies majors, 10, may be taken for credit towards the degree.
8. Not more than four university-accredited courses that are not Arts and Science courses may be taken for credit towards the degree. Courses cross-listed between the Faculty of Arts and Science and another Faculty do not count towards the limit outside Arts and Science.
9. A university-level course in Computer Science.*
10. A university-level course in Library Science.*
11. Completion of a second language course, other than English, at the 2000 level. Eligible courses include courses listed in the Calendar, or languages transferable to the University of Lethbridge at the 2000 level. Language instruction completed as an Independent Study is specifically excluded.
12. All degree requirements must be completed within 20 years after admission to the program.

**Demonstrated equivalent proficiency or approved work experience may satisfy these requirements.*

b. Major Requirements

1. Two Arts and Science major programs are to be completed, each of which is from a different one of the following three lists.

   Established multidisciplinary majors (Agricultural Biotechnology, Agricultural Studies, Biochemistry, Canadian Studies, Neuroscience, Recreation and Leisure Studies, and Urban and Regional Studies) and individual multidisciplinary programs are not eligible for selection as major programs.

Art	Anthropology	Biological Sciences
Dramatic Arts	Economics	Chemistry
English	Geography	Computer Science
French	Native American Studies	Geography
German	Physical Education	Mathematics
History	Political Science	Physics
Music	Psychology	Psychology
Philosophy	Sociology	
Religious Studies		

   All specific requirements for a chosen major must be fulfilled. The specific requirements for each disciplinary major program are set out elsewhere in this section.

2. No more than 20 courses from one discipline may be counted toward a major program.
3. At least six courses in the major discipline must be completed at the University of Lethbridge.

7. POST-DIPLOMA BACHELOR OF ARTS IN AGRICULTURAL STUDIES

This program is directed towards graduates of Olds College as indicated below. Graduates of other two-year college diploma programs in Agriculture will also be considered.

a. Admission Requirements

1. Completion of a two-year diploma program at Olds College in Agricultural Business, Agricultural Production, Horticulture, Animal Health Technology, Land Resource Management, Land Agent or Seed and Grain, with a minimum cumulative grade point average of 2.50 in the diploma program.
2. Subject to the permission of the Dean of Arts and Science, completion of a two-year diploma program at Olds College in Agricultural Business, Agricultural Production, Horticulture, Animal Health Technology, Land Resource Management, Land Agent or Seed and Grain, with a minimum cumulative grade point average of 2.00 to 2.49 in the diploma program.
3. Subject to the permission of the Dean of Arts and Science, completion of an approved two-year college diploma program in Agriculture with a minimum cumulative grade point average of 2.00.

b. General Requirements

1. Successful completion of at least 20 courses with a cumulative grade point average of at least 2.00.
2. Completion of the General Liberal Education Requirement. (see **Part 4 - Academic Regulations, Section 6, pp. 64-66**).
3. At least 13 courses not from the list Science Courses.
4. Not more than 10 courses at the 0100/1000 level may be taken for credit towards the degree. For 0100/1990-level courses which have a 0100/1000-level background or prerequisite, only the first course in the series counts toward this limit. Only one of Biology 1010 and Biology 1020 will be counted toward this limit.
5. At least four courses at the 3000/4000 level, excluding Activity courses.
6. Not more than two Independent Study courses may be taken for credit towards the degree.
7. Completion of all course requirements as specified in **c** below.

c. Course Requirements

Students must complete a total of 20 courses, including a core of 12 courses to satisfy the General Liberal Education Requirement and 8 courses to satisfy either the General Stream or the Agricultural Economics Stream. Students with an interest in graduate study in Agriculture should choose the Agricultural Economics Stream.

General Liberal Education Core (12 courses):

Agricultural Studies 1000 - The Evolution of Agriculture

One of: English 1900 - The World of Words
History 1000 - Western Civilization
Philosophy 1000 - Introduction to Philosophy
Religious Studies 1000 - Introduction to World Religions

Two additional courses from List I (Fine Arts and Humanities Courses)

Economics 1001* - Introduction to Economics
Economics 2001 - Principles of Micro-economics
Economics 3300 - Agricultural Policy I
One additional course from List II (Social Science Courses)**

Biology 1020*** - Diversity of Life
Statistics 1770 - Introduction to Probability and Statistics

One of: Economics 2900 - Quantitative Methods in Economics
Statistics 2780 - Statistical Inference

One additional course from List III (Science courses)****

* *Students holding the Olds College Agricultural Business or Land Agent Diplomas may not take Economics 1001 for credit and must choose an alternate course from List II (Social Science Courses).*

** *Students in the Agricultural Economics Stream must take Economics 2000 (Principles of Macroeconomics) as a necessary prerequisite to courses in that stream. Students holding the Olds College Business Agriculture (General Major) Diploma may not take Sociology 1000 for credit and must choose an alternate course from List II (Social Science Courses).*

*** *Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

**** *Students in the Agricultural Economics Stream must take Mathematics 1510 (Techniques of Calculus) or Mathematics 1560 (Calculus I). Students with an interest in graduate study in Agriculture should choose Mathematics 1560.*

Students must choose one of the following streams, each consisting of 8 courses:

General Stream (8 courses)

Agricultural Studies 2000 - Agricultural Systems Modelling I
Agricultural Studies 4000 - Seminars in Agricultural Issues Series

Any four additional courses from List I (Fine Arts and Humanities Courses) and List II (Social Science Courses), including at least two courses at the 3000/4000 level

Any two additional Arts and Science Courses

Agricultural Economics Stream (8 courses)

Agricultural Studies 4000 - Seminars in Agricultural Issues Series
Economics 3000 - Intermediate Macro-economic Theory
Economics 3001 - Intermediate Micro-economic Theory
Economics 4300 - Agricultural Policy II
Any two additional courses from List I (Fine Arts and Humanities Courses) and List II (Social Science Courses)
Any two additional Arts and Science Courses

8. POST-DIPLOMA BACHELOR OF SCIENCE IN AGRICULTURAL STUDIES

This program is directed towards graduates of Olds College as indicated below. Graduates of other two-year college diploma programs in Agriculture will also be considered.

a. Admission Requirements

1. Completion of a two-year diploma program at Olds College in Agricultural Business, Agricultural Production, Horticulture, Animal Health Technology, Land Resource Management, Land Agent or Seed and Grain, with a minimum cumulative grade point average of 2.50 in the diploma program.
2. Subject to the permission of the Dean of Arts and Science, completion of a two-year diploma program at Olds College in Agricultural Business, Agricultural Production, Horticulture, Animal Health Technology, Land Resource Management, Land Agent or Seed and Grain, with a minimum cumulative grade point average of 2.00 to 2.49 in the diploma program.
3. Subject to the permission of the Dean of Arts and Science, completion of an approved two-year college diploma program in Agriculture with a minimum cumulative grade point average of 2.00.

b. General Requirements

1. Successful completion of at least 20 courses with a cumulative grade point average of at least 2.00.
2. Completion of the General Liberal Education Requirement. (see **Part 4 - Academic Regulations, Section 6, pp. 64-66**).
3. At least 10 courses from the list Science Courses.
4. Not more than 10 courses at the 0100/1000 level may be taken for credit towards the degree. For 0100/1990-level courses which have a 0100/1000-level background or prerequisite, only the first course in the series counts toward this limit. Only one of Biology 1010 and Biology 1020 will be counted toward this limit.
5. At least four courses at the 3000/4000 level, excluding Activity courses.
6. Not more than two Independent Study courses may be taken for credit towards the degree.
7. Completion of all course requirements as specified in **c** below.

c. Course Requirements

Students must complete a total of 20 courses, including a core of 12 courses to satisfy the General Liberal Education Requirement and 8 courses to satisfy either the Biological Sciences Stream or the General Stream.

General Liberal Education Core (12 courses):

Agricultural Studies 1000 - The Evolution of Agriculture

One of: English 1900 - The World of Words
History 1000 - Western Civilization
Philosophy 1000 - Introduction to Philosophy
Religious Studies 1000 - Introduction to World Religions

Two additional courses from List I (Fine Arts and Humanities Courses)

Economics 1001* - Introduction to Economics
Economics 2001 - Principles of Micro-economics
Economics 3300 - Agricultural Policy I

One additional course from List II (Social Science Courses)**

Biology 1010 - Cellular Basis of Life
Biology 1020*** - Diversity of Life
Statistics 1770 - Introduction to Probability and Statistics

One of: Economics 2900 - Quantitative Methods in Economics
Statistics 2780 - Statistical Inference

* *Students holding the Olds College Agricultural Business or Land Agent Diplomas may not take Economics 1001 for credit and must choose an alternate course from List II (Social Science Courses).*

** *Students holding the Olds College Business Agriculture (General Major) Diploma may not take Sociology 1000 for credit. Students in the Geography Stream must choose Geography 1000 (Introduction to Physical Geography) as a necessary prerequisite to courses in the stream.*

*** *Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

Students must choose one of the following streams, each consisting of 8 courses:

Biological Sciences Stream (8 courses)

Agricultural Studies 2000 - Agricultural Systems Modelling I
Agricultural Studies 4000 - Seminars in Agricultural Issues Series
Biology 2000 - Principles of Genetics

Biology 2200 - Principles of Ecology
Chemistry 2100 - Elements of Organic Chemistry 1
Chemistry 2200 - Elements of Organic Chemistry II
One 3000/4000-level course in Botany
One 3000/4000-level course in Zoology

Geography Stream (8 courses)

Agricultural Studies 2000 - Agricultural Systems Modelling I
Agricultural Studies 4000 - Seminars in Agricultural Issues Series
Geography 2015 - Weather and Climate
Geography 2060 - Environmental Systems
Geography 3210 - Agricultural Geography
Geography 4200 - Seminar in Agricultural Geography

One of: Geography 4050 - Soils
Geography 4770 - Irrigation Science
One additional course from List III (Science Courses)

9. POST-DIPLOMA BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

a. Admission Requirements

This program is directed towards graduates of the Lethbridge Community College, as indicated below. Graduates of other college programs in Environmental Science will also be considered.

Admission to the post-diploma B.Sc. in Environmental Science requires:

1. Completion of the Diploma in Renewable Resource Management or in Watershed Management at the Lethbridge Community College with a minimum cumulative grade point average of 2.75 in the diploma program.

OR

2. Completion of the Diploma in Renewable Resource Management or in Watershed Management at the Lethbridge Community College with a minimum cumulative grade point average of 2.00 in the diploma program, and at least three years of directly related work experience after completion of the Lethbridge Community College Diploma and within the five years preceding admission to the University of Lethbridge.

OR

3. Applicants who have completed either of the above Lethbridge Community College Diplomas and have other combinations of cumulative grade point average and related work experience may be admitted with permission of the Dean of Arts and Science. Students must have a minimum cumulative grade point average of 2.00 in the diploma program.

OR

4. Subject to permission of the Dean of Arts and Science, completion of an approved college diploma program in Environmental Science, with a cumulative grade point average of 2.75 (or equivalent), or a minimum grade point average of 2.00 in the diploma program plus subsequent directly related work experience.

Applicants follow the procedures outlined for all students in **Part 1 - Admission**, and must also submit the following documentation:

1. Official college transcript.
2. Students with a cumulative grade point average of less than 2.75 must submit proof of directly related work experience.

b. General Requirements

1. Successful completion of at least 20 courses with a cumulative grade point average of at least 2.00.
2. Completion of five courses from Lists I and II for the General Liberal Education Requirement (see **Part 4 - Academic Regulations, Section 6, pp. 64-66**) as follows:
   - at least three courses from List I Fine Arts and Humanities courses; and,
   - at least one course from List II Social Science courses.
3. At least 14 courses for the Environmental Science major requirements (see **c.** below).
4. At least one further course at the 3000/4000 level.
5. Not more than two Independent Study courses may be taken for credit towards the degree.
6. Not more than one course that is not an Arts and Science course may be taken for credit towards the degree.

c. Major Requirements

1. A single major program in Environmental Science is offered (see **Part 5, Section 17n., pp. 91-92**).
2. All specific requirements for this major must be fulfilled.

10. CO-OPERATIVE EDUCATION IN THE HUMANITIES AND SOCIAL SCIENCES

A pilot Co-operative Education Program is available on a quota basis in all majors in the Humanities and Social Sciences in the B.A., Post-Diploma B.A., BASc., B.A./B.Ed. (including pre-B.A./B.Ed.) and B.A./B.Mgt. (including pre-B.A./B.Mgt.) degree programs. Co-operative Education differs from other forms of education in that it formally integrates a student's academic and career studies on campus with relevant and productive work experience in industry, business or government. Three partners in Co-operative Education - the Co-op Coordinator, the Faculty of Arts and Science and the

employer - share in the enrichment of the student's academic program and in the intellectual, personal and professional development of the Co-op student.

a. Admission

The criteria for admission include:

1. Minimum second-year standing.
2. Grade point average and academic standing.
3. A résumé and letter of intent provided by the student.
4. A personal interview.
5. Ability to perform in a work setting.

Other factors such as labour market conditions, work experience, volunteer experience and extra-curricular activities are also considered when selecting participants for the program.

b. Requirements

All students complete the course, major and degree requirements in addition to a minimum of three work terms (minimum four-month duration each). Students are also required to complete pre-employment preparation training prior to the first work placement.

Students may also opt for the maximum of three additional work terms:

Arts and Science 3014 - Co-op Work Experience IV
Arts and Science 3015 - Co-op Work Experience V
Arts and Science 3016 - Co-op Work Experience VI

Eligibility for this program is limited to Canadian citizens and Landed Immigrants.

Further information and details concerning admission and requirements may be obtained from the Office of Co-operative Education (D610; 382-7154).

1. B.A.: Students must complete the course, major and degree requirements (minimum 40 courses, 120.0 credit hours), plus a minimum of three work terms:

Arts and Science 3011 - Co-op Work Experience I
Arts and Science 3012 - Co-op Work Experience II
Arts and Science 3013 - Co-op Work Experience III

The following B.A. majors are available for a Co-op designation: Anthropology, Art, Dramatic Arts, Economics, English, French, French/German, Geography, German, History, Music, Native American Studies, Philosophy, Physical Education, Political Science, Psychology, Religious Studies, Sociology, a General Major in the Humanities, a General Major in the Social Sciences, an approved multidisciplinary major in Agricultural Studies, Canadian Studies, Recreation and Leisure Studies or Urban and Regional Studies, or an individual multidisciplinary major program.

2. Post-Diploma B.A.: Students must complete the course, major and degree requirements (minimum 20 courses, 60.0 credit hours), plus a minimum of three work terms:

Arts and Science 3011 - Co-op Work Experience I
Arts and Science 3012 - Co-op Work Experience II
Arts and Science 3013 - Co-op Work Experience III

The following major is available for a Co-op designation: Agricultural Studies.

3. BASc.: Students must complete the course, major and degree requirements (minimum 40 courses, 120.0 credit hours), including a Humanities or Social Sciences major, plus a minimum of three work terms:

Arts and Science 3011 - Co-op Work Experience I
Arts and Science 3012 - Co-op Work Experience II
Arts and Science 3013 - Co-op Work Experience III

The following majors are available for a Co-op designation: Anthropology, Art, Dramatic Arts, Economics, English, French, French/German, Geography, German, History, Music, Native American Studies, Philosophy, Physical Education, Political Science, Psychology, Religious Studies or Sociology. The multidisciplinary majors in Agricultural Studies, Canadian Studies, Recreation and Leisure Studies, and Urban and Regional Studies are specifically excluded.

4. B.A./B.Ed. (including pre-B.A./B.Ed.): Students must complete the course, major and degree requirements (minimum 30 courses, 90.0 credit hours, in Arts and Science; minimum 20 courses, 60.0 credit hours, in Education), plus a minimum of three work terms:

Arts and Science 3011 - Co-op Work Experience I
Arts and Science 3012 - Co-op Work Experience II
Arts and Science 3013 - Co-op Work Experience III

The following majors are available for a Co-op designation: Anthropology, Art, Dramatic Arts, Economics, English, French, French/German, Geography, German, History, Music, Native American Studies, Physical Education, Political Science, Sociology, a General Major in the Humanities, a General Major in the Social Sciences, an approved multidisciplinary major in Canadian Studies, Recreation and Leisure Studies or Urban and Regional Studies. The multidisciplinary major in Agricultural Studies is specifically excluded.

5. B.A./B.Mgt. (including pre-B.A./B.Mgt.): Students must complete the course, major and degree requirements (minimum 30 courses, 90.0 credit hours, in Arts and Science; minimum 20 courses, 60.0 credit hours, in Management), plus a minimum of three work terms:

Arts and Science 3011 - Co-op Work Experience I
Arts and Science 3012 - Co-op Work Experience II
Arts and Science 3013 - Co-op Work Experience III

The following majors are available for a Co-op designation: Anthropology, Art, Dramatic Arts,

Economics, English, French, French/German, Geography, German, History, Music, Native American Studies, Philosophy, Physical Education, Political Science, Psychology, Religious Studies, Sociology, a General Major in the Humanities, a General Major in the Social Sciences, an approved multidisciplinary major in Canadian Studies, Recreation and Leisure Studies or Urban and Regional Studies. The multidisciplinary major in Agricultural Studies is specifically excluded.

11. CO-OPERATIVE EDUCATION IN THE SCIENCES

A Co-operative Education Program is available in Science majors in the B.Sc., Post-Diploma B.Sc., BASc., B.Sc./B.Ed. (including pre-B.Sc./B.Ed.) and B.Sc./B.Mgt. (including pre-B.Sc./B.Mgt.) degree programs. Co-operative Education differs from other forms of education in that it formally integrates a student's academic and career studies on campus with relevant and productive work experience in industry, business or government. Three partners in Co-operative Education - the Co-op Coordinator, the Faculty of Arts and Science and the employer - share in the enrichment of the student's academic program and in the intellectual, personal and professional development of the Co-op student.

a. Admission

The criteria for admission include:

1. Minimum second-year standing.
2. Grade point average and academic standing.
3. A résumé and letter of intent provided by the student.
4. A personal interview.
5. Ability to perform in a work setting.

Other factors such as work experience, volunteer experience and extra-curricular activities are also considered when selecting participants for the program.

b. Requirements

All students complete the course, major and degree requirements in addition to a minimum of three work terms (minimum four-month duration each). Students are also required to complete pre-employment preparation training prior to the first work term.

Students may also opt for the maximum of three additional work terms:

Arts and Science 3014 - Co-op Work Experience IV
Arts and Science 3015 - Co-op Work Experience V
Arts and Science 3016 - Co-op Work Experience VI

Eligibility for this program is limited to Canadian citizens and Landed Immigrants.

Further information and details concerning admission and requirements may be obtained from the Office of Co-operative Education (D610; 382-7154).

1. **B.Sc.: Students must complete the course, major and degree requirements (minimum 40 courses, 120.0 credit hours) plus a minimum of three work terms:**

   Arts and Science 3011 - Co-op Work Experience I
   Arts and Science 3012 - Co-op Work Experience II
   Arts and Science 3013 - Co-op Work Experience III

   The following B.Sc. majors are available for a Co-op designation: Biological Sciences, Chemistry, Computer Science, Geography, Mathematics, Physics, Psychology, a General Major in the Sciences, an approved multidisciplinary major in Agricultural Biotechnology, Agricultural Studies, Biochemistry, Neuroscience or Urban and Regional Studies, or an individual multidisciplinary major.

2. **Post-Diploma B.Sc.: Students must complete the course, major and degree requirements (minimum 20 courses, 60.0 credit hours), plus a minimum of three work terms:**

   Arts and Science 3011 - Co-op Work Experience I
   Arts and Science 3012 - Co-op Work Experience II
   Arts and Science 3013 - Co-op Work Experience III

   The following majors are available for a Co-op designation: Agricultural Studies, Environmental Science.

3. **BASc.: Students must complete the course, major and degree requirements (minimum 40 courses, 120.0 credit hours), including a Science major, plus a minimum of three work terms:**

   Arts and Science 3011 - Co-op Work Experience I
   Arts and Science 3012 - Co-op Work Experience II
   Arts and Science 3013 - Co-op Work Experience III

   The following majors are available for a Co-op designation: Biological Sciences, Chemistry, Computer Science, Geography, Mathematics, Physics or Psychology. The multidisciplinary majors in Agricultural Biotechnology, Agricultural Studies, Biochemistry, Neuroscience and Urban and Regional Studies are specifically excluded.

4. **B.Sc./B.Ed. (including pre-B.Sc./B.Ed.): Students must complete the course, major and degree requirements (minimum 30 courses, 90.0 credit hours, in Arts and Science; minimum 20 courses, 60.0 credit hours, in Education), plus a minimum of three work terms:**

   Arts and Science 3011 - Co-op Work Experience I
   Arts and Science 3012 - Co-op Work Experience II
   Arts and Science 3013 - Co-op Work Experience III

   The following majors are available for a Co-op designation: Biological Sciences, Chemistry, Geography, Mathematics, Physics, a General Major in the Sciences, or an approved multidisciplinary major in Urban and Regional Studies. The multidisciplinary majors in Agricultural Biotechnology, Agricultural Studies, Biochemistry and Neuroscience are specifically excluded.

5. **B.Sc./B.Mgt. (including pre-B.Sc./B.Mgt.): Students must complete the course, major and degree requirements (minimum 30 courses, 90.0 credit hours, in Arts and Science; minimum 20 courses, 60.0 credit hours, in Management), plus a minimum of three work terms:**

   Arts and Science 3011 - Co-op Work Experience I
   Arts and Science 3012 - Co-op Work Experience II
   Arts and Science 3013 - Co-op Work Experience III

   The following majors are available for a Co-op designation: Biological Sciences, Chemistry, Computer Science, Geography, Mathematics, Physics, Psychology, a General Major in the Sciences, an approved multidisciplinary major in Urban and Regional Studies. The multidisciplinary majors in Agricultural Biotechnology, Agricultural Studies, Biochemistry and Neuroscience are specifically excluded.

12. DOUBLE MAJORS

Although the Faculty of Arts and Science does not recognize double majors as official student programs leading toward the B.A. or B.Sc. degree, it will authorize the designation of the double major for all students who, upon graduation, have completed all of the minimum requirements for two disciplinary majors.

Double majors can only be formed by completing the requirements of two established single disciplinary majors; individual and regularized multidisciplinary majors are ineligible for double major designation.

Because all possible combinations of single disciplinary majors are eligible for double major designation by a student, the Faculty cannot guarantee that course sequencing and timetables will accommodate all double major combinations within eight consecutive regular semesters of work. While students may intend to pursue two majors, only one major will be recognized on their official program forms and for establishing priority in access to courses. Double major status will only be designated upon application for graduation.

Interested students are encouraged to consult with Academic Advisors regarding double majors.

13. INDIVIDUAL MULTIDISCIPLINARY MAJORS

Students may establish individual multidisciplinary majors.

An individual multidisciplinary major must represent an identifiable and significant body of knowledge and entail in-depth study rather than a superficial survey of a broad topic. For the most part, the program is expected to be derived from the existing curriculum in Arts and Science.

An individual multidisciplinary major program consists of 20 courses with the following structure:

a. Required Core

   The core of the major must contain a minimum of 8 and a maximum of 12 required courses providing a broad based familiarity with the major.These core courses must be taken from at least two disciplines.

b. An Independent Study at the 3000 or 4000 level.

c. Options

   The remaining courses in the individual multidisciplinary major must be chosen from a list of optional courses.The chosen courses must be from at least two disciplines.

d. At least six of the 20 courses must be at the 3000 or 4000 level, one of which must be at the 4000 level.

Students are encouraged to apply early to establish an individual multidisciplinary major and also to explore potential programs with faculty members prior to making an application.

An application to establish an individual multidisciplinary major must be submitted to the Assistant Dean (Curriculum and Advising) of Arts and Science. Approval of an individual multidisciplinary major by Arts and Science Council must be obtained prior to registration in the final 10 courses in the degree. Students are advised that formulation and approval of a program normally takes up to six months after the initial application and thus applications should be submitted in sufficient time to allow processing.

The individual multidisciplinary major shall be formulated by a committee, chaired by the Assistant Dean (Curriculum and Advising) and comprised of the student and faculty representatives, appointed by their departments, from at least two appropriate departments chosen by the Assistant Dean (Curriculum and Advising) of Arts and Science.

During its deliberations the committee shall consult all departments represented in the major. Before being submitted to the Arts and Science Curriculum Committee, the proposed program shall be approved by the chairs of the departments represented on the committee.

Students interested in an individual multidisciplinary major should contact the Assistant Dean (Curriculum and Advising) of Arts and Science.

14. COMBINED DEGREES

There are combined 50-course programs leading to the degrees B.A./B.Ed. and B.Sc./B.Ed., and the degrees B.A./B.Mgt. and B.Sc./B.Mgt. Upon successful completion of the program the student receives the degree B.A. or B.Sc. from the Faculty of Arts and Science and the degree B.Ed. from the Faculty of Education or the degree B.Mgt. from the Faculty of Management. Initially, students are registered in the Faculty of Arts and Science. Neither degree is granted until the entire Combined Degrees program is completed. See **Part 11 - Combined Degrees**, for complete information.

15. B.A., B.Sc. or BASc. AFTER AN APPROVED DEGREE

An approved degree is a degree with 30 or more course equivalents completed not more than 20 years ago, from a recognized institution.At least ten of the courses must be Arts and Science courses completed with a minimum grade of C.

A student may complete the B.A., B.Sc. or BASc. after an approved degree by meeting the following requirements:

a. Residence Requirements: 15 courses including the final 5 taken at the University of Lethbridge after admission to the second degree program.

b. Approval: The entire program must be approved in advance by an Academic Advisor.

c. Total Program: A minimum of 20 courses after admission to the second degree program. No courses taken outside the Faculty of Arts and Science may count as part of this program. A grade point average of at least 2.00 must be maintained at all times.

d. Breadth: At least 10 courses outside the major program(s) after admission to the second degree program.

e. Distribution Requirement: 10 courses based on the General Liberal Education Requirement. For specific information, please see an Academic Advisor. Courses from both degrees will be considered.

f. For the B.A. degree at least 25 courses not from the list **Science Courses**, courses from both degrees considered.

g. For the B.Sc. degree at least 25 courses from the list **Science Courses**, courses from both degrees considered.

h. The entire program must be completed within 20 years.

i. Course Level: No courses below the 2000 level, unless required for a major and a minimum of 10 courses at or above the 3000 level.

j. Independent Study: Not more than three Independent Study courses may be taken for credit towards the degree.

k. Major Requirement: All current requirements for major(s) apply. Courses from the previous degree may apply. The major(s) must be declared at the time of program approval.

l. Students seeking a General Major for a B.A. or B.Sc. after an approved degree must complete at least 16 courses from one of the Humanities, the Social Sciences or the Sciences lists. Of these 16 courses, six must be at the 3000 to 4000 level and four must be completed from each of the three disciplines at any level.

16. DIVISIONAL COURSE DESIGNATION

The following Arts and Science courses are designated as Science courses for purposes of major and degree. Courses marked with an asterisk (*) may be considered as non-Science courses for the B.A., B.A./B.Ed. and B.A./B.Mgt. degrees.

Note: *For regulations regarding the General Liberal Education Requirement, please see* ***Part 4 - Academic Regulations, Section 6, pp. 64-66****.*

Science Courses

Agricultural Studies
- *Agricultural Studies 2000 - Agricultural Systems Modelling I
- *Agricultural Studies 3000 - Agricultural Systems Modelling II

Archaeology
- Archaeology 1000 - Introduction to Archaeology
- Archaeology 2100 - Series in Archaeology
- Archaeology 3000 - Series in Archaeology
- Archaeology 3100 - The Prehistoric World
- Archaeology 3160 - Archaeology of Africa
- Archaeology 3300 - Archaeological Field Work (Series)
- Archaeology 3700 - Geoarchaeology and Landscape Analysis
- Archaeology 4000 - Advanced Series in Archaeology

Biological Sciences
- Biology - all courses
- Botany - all courses
- Zoology - all courses

Chemistry
- Chemistry - all courses

Computer Science
- Computer Science - all courses

Economics
- Economics 2070/Management 2070 - Decision Analysis
- Economics 2900 - Quantitative Methods in Economics
- Economics 3900/Management 3721 - Economic and Business Forecasting
- Economics 4020 - Econometrics
- Economics 4150 - Mathematical Economics

Environmental Science
- Environmental Science - all courses

Geography
- *Geography 1000 - Introduction to Physical Geography
- Geography 2015 - Weather and Climate
- Geography 2030 - Geomorphology
- Geography 2060 - Environmental Systems
- Geography 2700 - Geographical Data and Analysis
- Geography 2710 - Map Interpretation
- Geography 3035 - Fluvial Geomorphology
- Geography 3060 - Glaciology and Glacial Geomorphology
- Geography 3070 (4070) - Natural Hazards
- Geography 3235 - Quantitative Models for Urban and Regional Analysis
- Geography 3700 (2720) - Cartography
- Geography 3710 (2730) - Field Techniques in the Earth Sciences
- Geography 3720 (2740) - Introduction to Remote Sensing
- Geography 3730 - Spatial Statistics
- Geography 3740 - Geographic Information Systems
- Geography 4012 (3012) - Hydrology

Geography 4050 - Soils
Geography 4200 - Seminar in Agricultural Geography
Geography 4740 - Applied Geographic Information Systems
Geography 4770 - Irrigation Science

Geology
Geology - all courses

Logic
Logic - all courses

Mathematics
Mathematics - all courses
Statistics - all courses

Philosophy
Philosophy 2231 - Philosophy and the World View of Science: Space, Time and Matter
Philosophy 2232 - Philosophy and the World View of Science: Earth and Life Sciences

Physical Education
Physical Education 2110 - Biological and Physical Science Dimensions of Physical Activity Involvement
Physical Education 2200 - Research Methodologies in Physical Activity Involvement
Physical Education 2600 - Functional Human Anatomy
Physical Education 2630 - Growth and Development
Physical Education 3600 - Physiology of Muscular Activity
Physical Education 3650 - Biomechanics
Physical Education 3670 - Motor Skill Learning
Physical Education 4650 - Principles of Athletic Training

Physics
Astronomy - all courses
Engineering - all courses
Physics - all courses

Psychology
*Psychology 1000 - Basic Concepts of Psychology
Psychology 2010 - Research Methods in Human Experimental Psychology
Psychology 2320 - Cognitive Psychology
Psychology 2600 - Brain and Behaviour
Psychology 2700 - Introduction to Animal Behaviour
Psychology 3010 (2400) - Introduction to Statistics in Psychological Research
Psychology 3200 - Sensory Systems and Perception
Psychology 3320 - Advanced Cognition
Psychology 3340 - Applied Cognition
Psychology 3600 - Introduction to Neuroscience
Psychology 3605 - Research Methods in Neuroscience
Psychology 3610 - Human Neuropsychology
Psychology 3640 - Brain Plasticity and Memory
Psychology 3650 - Hormones, Drugs and Behaviour
Psychology 3660 - The Psychobiology of Behavioural Development
Psychology 3670 (3601) - Developmental Neurobiology
Psychology 3690 - Concepts in Neuroscience
Psychology 3700 - Research Methods in Animal Behaviour
Psychology 3710 - Neuroethology
Psychology 3720 (2300) - Learning
Psychology 3740 - Primate Behaviour
Psychology 3750 - Concepts in Comparative Psychology
Psychology 4010 (3400) - Advanced Research Design and Data Analysis
Psychology 4320 - Cognitive Research
Psychology 4600 - Research in Behavioural Neuroscience
Psychology 4700 - Advanced Research in Animal Behaviour

Science
Science 1000 - Great Ideas: Life and Matter in the Universe

Courses offered by Arts and Science as individual titles in Series, Topics, Applied Studies Disciplinary Credit, Independent Studies and Interdisciplinary Studies courses will be designated as non-Science (Humanities or Social Sciences) or Science courses by the Faculty of Arts and Science at registration, in conformity with the division of courses established above. Arts and Science Council has the ultimate authority to determine designation.

17. MAJORS AND PROGRAMS

The Faculty of Arts and Science offers majors, programs and courses in the following fields of study:

General Majors

Humanities
Sciences
Social Sciences

Disciplinary Majors (Single or Double Disciplinary Majors)

Anthropology
Art
Biological Sciences
Chemistry
Computer Science
Dramatic Arts
Economics
English
French
French/German
Geography
German
History
Mathematics
Music
Native American Studies
Philosophy
Physical Education
Physics
Political Science
Psychology
Religious Studies
Sociology

Multidisciplinary Majors

Agricultural Biotechnology
Agricultural Studies
Biochemistry
Canadian Studies
Neuroscience
Recreation and Leisure Studies
Urban and Regional Studies

Supplementary Courses of Instruction

Applied Studies	Japanese
Archaeology	Latin
Astronomy	Liberal Arts
Blackfoot	Library Science
Botany	Linguistics
Chinese	Logic
Cree	Modern Languages
Engineering	Science
Environmental Science	Spanish
Geology	Statistics
Greek	Women's Studies
Hebrew	Zoology
Interdisciplinary Studies	

The following sections provide information about General Majors, disciplinary majors, multidisciplinary majors and programs of instruction. Further details may be obtained from the Assistant Dean (Curriculum and Advising) of Arts and Science, Department Chairs or Program Coordinators.

a. General Majors

The Faculty of Arts and Science offers General Majors in the areas of Humanities, Social Sciences and Sciences. General Majors are composed of existing courses designated as Humanities, Social Science or Science courses. The main emphasis of the General Major is to provide a broad major that supports an ideal of liberal education without sacrificing focus and depth unduly.

All students with General Majors are required to see an Academic Advisor at least once a year from declaration of the major to graduation. Students interested in a General Major should contact an Academic Advisor or the Assistant Dean (Curriculum and Advising).

Regulations regarding General Majors are as follows:

General Major in the Humanities

i. Students must select three disciplinary streams from the following:

One of Art, Dramatic Arts or Music
English - all courses
One of French, German or Spanish (Linguistics 2300 may be substituted for one of the courses in the chosen language)
Classical Languages
Greek - all courses
Hebrew - all courses
Latin - all courses
History - all courses
Native American Studies - all courses (including courses in Blackfoot and Cree)
Philosophy - all courses
Religious Studies - all courses

ii. Major Requirements

1. Students seeking a General Major in the Humanities must complete at least 20 courses from the Humanities streams indicated in **i.** above.
2. Of the above 20, seven must be at the 3000 to 4000 level and five must be completed from each of the three disciplinary streams at any level.
3. General Majors in the Humanities must complete a course in a language other than English. The language course is counted as part of the 20-course minimum for the major.
4. General Majors in the Humanities must abide by the General Liberal Education Requirement and departmental requirements regarding prerequisites and course sequencing.

iii. Degree Requirements

General Majors in the Humanities shall fulfill the general requirements for the B.A. not specifically addressed in the requirements cited above. For the General Major (B.A.), the B.A. general requirements are amended to read: For purposes of these regulations, French, German and Spanish may not be considered separate departments.

Note: *Students pursuing the combined B.A./B.Ed. or B.A./B.Mgt. should consult* ***Part 11 - Combined Degrees, Sections 3 and 8 respectively,*** *for information concerning Education majors and regulations pertaining to Arts and Science General Majors combined with an Education or Management degree.*

General Major in the Social Sciences

i. Students must select three disciplinary streams from the following:

Anthropology - all courses
Economics - all courses designated Social Science
Geography - all courses designated Social Science (Geography 1000 may be included, although it is designated Science. Courses in Archaeology and Geology may not be included.)
History - all courses
Native American Studies - all courses (courses in Blackfoot and Cree may not be included)
Physical Education - all courses designated Social Science (Physical Activity courses may not be included)
Political Science - all courses
Psychology - all courses designated Social Science (Psychology 1000 and 2010 may be included, although they are designated Science)
Sociology - all courses
Women's Studies - all courses

ii. Major Requirements

1. Students seeking a General Major in the Social Sciences must complete at least 20 courses

from the Social Science streams indicated in **i.** above.

2. Of the above 20, seven must be at the 3000 or 4000 level and five must be completed from each of the disciplinary streams at any level.

Note: *Students who select Women's Studies as one of the disciplinary streams must include:*

Women's Studies 2000 - Issues in Women's Studies
Women's Studies 3500 - Feminist Theory
One of: *Women's Studies 2700 - Feminist Research and Methodologies*
Sociology 3120 - Qualitative Research Methods

3. General Majors in the Social Sciences must complete a "Quantitatively-based Methodology" course. This course is counted as part of the 20-course minimum for the major.

"Quantitatively-based Methodology" courses for the General Major in the Social Sciences include:

Economics 2900 - Quantitative Methods in Economics
Geography 3730 - Spatial Statistics
Psychology 3010 (2400) - Introduction to Statistics in Psychological Research
Sociology 2130 - Social Statistics
Statistics 2780 - Statistical Inference

4. General Majors in the Social Sciences must abide by the General Liberal Education Requirement and departmental requirements regarding prerequisites and course sequencing.

iii. Degree Requirements

General Majors in the Social Sciences shall fulfill the general requirements for the B.A. not specifically addressed in the specific requirements cited above.

Note: *Students pursuing the combined B.A./B.Ed. or B.A./B.Mgt. should consult **Part 11 - Combined Degrees, Sections 3 and 8 respectively**, for information concerning Education majors and regulations pertaining to Arts and Science General Majors combined with an Education or Management degree.*

General Major in the Sciences

i. Students must select three disciplinary streams from the following:

Archaeology - all courses
Biological Sciences
Biology - all courses
Botany - all courses
Zoology - all courses
Chemistry - all courses
Computer Science - all courses
Geography - all courses designated Science (including courses in Geology)
Mathematics - all courses (including courses in Statistics)
Physical Education - all courses designated Science (Physical Activity courses may not be included)
Physics - all courses (including courses in Astronomy and Engineering)
Psychology - all courses designated Science

ii. Major Requirements

1. Students seeking a General Major in the Sciences must complete at least 20 courses from the Science streams indicated in **i.** above.

2. Of the above 20, seven must be at the 3000 or 4000 level and five must be completed from each of the three disciplinary streams at any level.

3. General Majors in the Sciences must complete a "Science in Human Affairs" course. This course is counted as part of the 20-course minimum for the major.

"Science in Human Affairs" courses for the General Major in the Sciences include:

Biology 2050 - Biology and Human Affairs
Chemistry 2250 - Elements of Human Nutrition
Geography 2060 - Environmental Systems
Philosophy 2231 - Philosophy and the World View of Science: Space, Time and Matter
Philosophy 2232 - Philosophy and the World View of Science: Earth and Life Sciences
Philosophy 3402 - Biomedical Ethics
Physics 2020 - Physics and Society
Psychology 3810 - Environmental Psychology

4. General Majors in the Sciences must abide by the General Liberal Education Requirement and departmental requirements regarding prerequisites and course sequencing.

iii. Degree Requirements

General Majors in the Sciences shall fulfill the general requirements for the B.Sc. not specifically addressed by the specific requirements cited above.

Note: *Students pursuing the combined B.Sc./B.Ed. or the B.Sc./B.Mgt. should consult **Part 11 - Combined Degrees, Sections 3 and 8 respectively**, for information concerning Education majors and regulations pertaining to Arts and Science General Majors combined with an Education or Management degree.*

b. Agricultural Biotechnology

The Departments of Biological Sciences, Chemistry and Economics jointly offer instruction leading to a multidisciplinary major in Agricultural Biotechnology. The program provides background for a diverse range of activities such as graduate study in the life sciences and career development within the agricultural industry.

Required courses include:

Agricultural Studies 1000 - The Evolution of Agriculture
Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 1020* - Diversity of Life
Biology 2000 - Principles of Genetics
Biology 2200 - Principles of Ecology

Two of: Biology 3000 - Molecular Genetics
Biology 3110 - Cell Regulation
Biology 3200 - (Microbiology 2000 prior to 1996/1997) - Principles of Microbiology

One of: Biology 4200 - Techniques in Molecular Biology
Botany 3700 - Plant Biotechnology

One of: Biology 3300 - Evolution
Botany 4500 - Plant Systematics and Evolution

One of: Botany 3300 - Plant Physiology
Zoology 3700 - Animal Physiology I

Biology 4300 - Advances in Agricultural Biotechnology
Chemistry 1000 - Atoms, Molecules and Chemical Reactions

Either: Chemistry 2100 and 2200 - Elements of Organic Chemistry I and II
OR
Chemistry 2500 and 2600 - Organic Chemistry I and II

Chemistry 3310 - Biochemistry I
Economics 1001 - Introduction to Economics
Economics 2001 - Principles of Micro-economics
Economics 3300 - Agricultural Policy I

One of: Physics 1000 - Introduction to Physics I
Physics 1050 - Introduction to Biophysics

One of: Statistics 1770 - Introduction to Probability and Statistics
Mathematics 1560 - Calculus I

***** *Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

Agricultural Biotechnology

Total number of courses required for the Agricultural Biotechnology major 20

(Independent Study - Optional; may not be counted in required courses for major)

c. Agricultural Studies

A student may choose Agricultural Studies as a multidisciplinary major for either the B.A. or B.Sc. degree programs (see pp. 72-74 for program requirements for the Post-Diploma B.A. and B.Sc. in Agricultural Studies).

For the B.A., the major includes courses in Agricultural Studies, Anthropology, Economics, Geography, Political Science and Sociology. Students study the interrelationships among agricultural, social, economic and environmental systems. For the B.Sc., the major includes courses in Agricultural Studies, Biological Sciences and Geography.

The major was implemented for September 1996 but is still in the developmental stage. Changes may be made as new courses are introduced and further details evolve. Students should contact the Coordinator of Agricultural Studies (C876, 380-1813) or the Academic Advising Office (SU060, 329-5106) for further information.

1. For the B.A. - Agricultural Studies:

Students must complete a total of 20 courses for the multidisciplinary major in Agricultural Studies: a core of TEN courses plus EIGHT courses from one subfield and TWO from a second subfield, as indicated below. In addition, students in this program must complete a professional semester of practical agricultural training (equivalent of five courses, 15.0 credit hours) at Olds College or an approved equivalent program.

Required Core (10 courses):

Agricultural Studies 1000 - The Evolution of Agriculture
Agricultural Studies 2000 - Agricultural Systems Modelling I
Agricultural Studies 3000 - Agricultural Systems Modelling II
Agricultural Studies 4000 - Seminars in Agricultural Issues Series
Biology 1020* - Diversity of Life
Economics 1001 - Introduction to Economics
Geography 2200 - Introduction to Human Geography
Statistics 1770 - Introduction to Probability and Statistics

Two of: Anthropology 1000 - Introduction to Social/Cultural Anthropology
Political Science 1000 - Introduction to Political Studies
Sociology 1000 - Basic Concepts in Sociology

** Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

Required Subfield courses:

The remaining TEN courses must include at least EIGHT courses from one of the following subfields and at least TWO additional courses from the second subfield. At least FOUR courses must be at the 3000/4000 level.

Note: *Courses which appear in both subfield lists may be counted in only one of the subfields. Students choosing Agricultural Economics as their eight-course subfield*

must choose two courses from the Rural Sociology and Development subfield which <u>are not</u> Economics courses.

Students choosing Agricultural Economics as their eight-course subfield must complete the Quantitative Methods requirement: Economics 2900. Students choosing Rural Sociology and Development as their eight-course subfield must complete the Research Methodology requirement: Sociology 2100.

a. Agricultural Economics

Economics 2001 - Principles of Micro-economics
Economics 2150 - Economics of Agricultural Issues
Economics 2250 - Economics of Agricultural Markets I
Economics 3001 - Intermediate Micro-economic Theory
Economics 3300 - Agricultural Policy I
Economics 3330 - Economics of Agriculture and the Environment
Economics 3350 - Economics of Agricultural Markets II
Economics 4300 - Agricultural Policy II

Quantitative Methods Requirement:
Economics 2900 - Quantitative Methods in Economics

Note: *Students wishing to pursue graduate studies in Agricultural Economics should also include Economics 2000 and 3000 and Mathematics 1560 in their programs.*

b. Rural Sociology and Development

Anthropology 2100 - Contemporary Canadian Communities
Anthropology 3810 - Applied Anthropology
Anthropology 4500 - Series on Anthropological Methods: Ethnographic Methods
Archaeology 2100 - Series in Archaeology: Archaeology of Agriculture
Economics 2001 - Principles of Microeconomics
Economics 3300 - Agricultural Policy I
Economics 3800 - Economic Growth and Development in the Third World
Economics 4300 - Agricultural Policy II
Geography 1000 - Introduction to Physical Geography
Geography 2060 - Environmental Systems
Geography 2210 - Urban and Economic Geography
Geography 3210 - Agricultural Geography
Geography 4200 - Seminar in Agricultural Geography
Political Science 2210 - Canadian Politics and Government
Political Science 2410 - Public Administration
Political Science 3260 - Canadian Public Policy
Sociology 3110 - Survey Research
Sociology 3120 - Qualitative Research Methods
Sociology 3430 - Sociology of Development and Underdevelopment

Research Methodology Requirement:
Sociology 2100 - Research Methods

Note: *Applied Studies, Independent Studies and Special Topics courses may be counted towards the major provided:*
1. They are clearly related to one of the subfields; and,
2. They are approved by the Coordinator of the program.

2. For the B.Sc. - Agricultural Studies:

Students must complete a total of 20 courses for the multidisciplinary major in Agricultural Studies: a core of 12 courses plus EIGHT courses from the subfields, as specified below. In addition, students in this program must complete a professional semester of practical agricultural training (equivalent of five courses, 15.0 credit hours) at Olds College or an approved equivalent program.

Required Core (12 courses):

Agricultural Studies 1000 - The Evolution of Agriculture
Agricultural Studies 2000 - Agricultural Systems Modelling I
Agricultural Studies 3000 - Agricultural Systems Modelling II
Agricultural Studies 4000 - Seminars in Agricultural Issues Series
Biology 1010 - Cellular Basis of Life
Biology 1020* - Diversity of Life
Biology 2000 - Principles of Genetics
Chemistry 2100 - Elements of Organic Chemistry I
Economics 1001 - Introduction to Economics
Geography 1000 - Introduction to Physical Geography
Statistics 1770 - Introduction to Probability and Statistics

One of: Computer Science 1620 (1600) - Introduction to a Programming Language
Mathematics 1560 - Calculus I
Physics 1050 - Introduction to Biophysics

** Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

Required Subfield courses:

The remaining EIGHT courses must include at least FOUR courses from one of the following subfields (Agricultural Modelling, Biological Sciences or Geography) and at least TWO courses from each of the other subfields. At least FOUR courses must be at the 3000/4000 level.

a. Agricultural Modelling

Agricultural Studies 3300 - Series in Advanced Agricultural Modelling: Case Studies
Economics 2001 - Principles of Micro-economics
Economics 3300 - Agricultural Policy I
Economics 4300 - Agricultural Policy II

One of: Economics 2900 - Quantitative Methods in Economics
Statistics 2780 - Statistical Inference

b. Biological Sciences

Biology 2200 - Principles of Ecology
Biology 3000 - Molecular Genetics
Biology 3200 (Microbiology 2000 prior to 1996/1997) - Principles of Microbiology
Botany 3300 - Plant Physiology
Botany 3400 - Plant Ecology
Botany 3500 - Plant Anatomy and Morphology
Botany 3700 - Plant Biotechnology
Botany 4200 - Plant Development
Botany 4500 - Plant Systematics and Evolution
Chemistry 2200 - Elements of Organic Chemistry II
Zoology 3600 - Animal Ecology
Zoology 3700 - Animal Physiology I
Zoology 3800 - Invertebrate Zoology
Zoology 3900 - Vertebrate Zoology
Zoology 3910 - Comparative Vertebrate Anatomy

c. Geography

Archaeology 2100 - Series in Archaeology: Archaeology of Agriculture
Geography 2015 - Weather and Climate
Geography 2030 - Geomorphology
Geography 2060 - Environmental Systems
Geography 3210 - Agricultural Geography
Geography 4200 - Seminar in Agricultural Geography
Geography 4050 - Soils
Geography 4770 - Irrigation Science
Geology 2060 - Physical Geology

Note: *Applied Studies, Independent Studies and Special Topics courses may be counted towards the major provided:*
1. They are clearly related to one of the subfields; and,
2. They are approved by the Coordinator of the program.

Agricultural Studies

Total number of courses required for the Agricultural Studies major 20

(Independent Study - Optional; may be counted in required courses for major)

d. Anthropology

Anthropology speaks of the diversities and commonalities of human experience throughout the world. Anthropology takes as a central principle of its inquiry the idea that we cannot understand ourselves fully unless we also appreciate the life styles of others. The Department of Anthropology offers courses in social and cultural Anthropology.

To gain maximum benefit from courses at the 3000 and 4000 levels, students should first take courses at the 1000 and 2000 levels.

The major in Anthropology requires 13 Anthropology courses including the following:

Required courses include:

Anthropology 1000 - Introduction to Social/Cultural Anthropology

Two courses at the 2000 level

Anthropology 3000 - The History of Anthropological Thought

One course from Anthropology 3100 - Series on Regional Ethnography

Three additional courses at the 3000 level, excluding Anthropology 3980 (Applied Studies) and Anthropology 3990 (Independent Studies)

Three courses at the 4000 level, excluding Anthropology 4980 (Applied Studies) and Anthropology 4990 (Independent Studies)

Note: *Students may take more than one offering of a Series course (i.e., Anthropology 3100, 3900, 4002, 4500) or a Topics course (i.e., Anthropology 4850) for credit if the offerings (as indicated by the specific titles) are distinct.*

Anthropology

Minimum number of Anthropology courses required 13
Number of cognate courses required 0

Total number of courses required for the Anthropology major 13

(Independent Study - Optional; may not be counted in required courses for major)

e. Art

The Division of Art offers instruction in the theory and history of Art, as well as studio practice.

The Art major requirement for the B.A. and BASc. degrees consists of 39.0 credit hours as follows:

Required courses include:

Art 1000 - Introduction to Art
Art 2230 - Western Art History - 15th Century to the Present
Art 3010 (3150) - Drawing
Art 3220 - Art: 1945 to 1970
Art 3240 - Canadian Art History
Art 3270 - Art Since 1970

Five additional Art electives

One of: Art 2030* - Visual Foundations
or
Art 2315 - Fundamentals of Drawing; and
Art 2316 - Fundamentals of Art Making; and,
An approved portfolio

*****Art 2030 is 6.0 credit hours.*

A student proceeding beyond this requirement may choose to focus on Art Studio or Art History.

Courses in Art are offered by the School of Fine Arts. Art courses taken by students registered in the Faculty of Arts and Science count in their programs as Arts and Science courses.

Students interested in the Bachelor of Fine Arts (Art) program should refer to **Part 7 - School of Fine Arts**.

Art

Minimum number of credit hours required 39.0
Number of cognate courses (credit hours) required 0

Total number of credit hours required for the Art major 39.0

(Independent Study - Optional; may not be counted in required courses for major)

f. Biochemistry

The Departments of Biological Sciences and Chemistry jointly offer instruction leading to a multidisciplinary major in Biochemistry. The program provides background for a diverse range of activities such as graduate study in the life sciences and professional programs such as medicine and veterinary science. The program mainly consists of courses offered by the Departments of Biological Sciences and Chemistry.

Required courses for the multidisciplinary major in Biochemistry include:

Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 1020* - Diversity of Life
Biology 2000 - Principles of Genetics
Biology 3000 - Molecular Genetics
Biology 3110 - Cell Regulation
Biology 3200 (Microbiology 2000 prior to 1996/1997) - Principles of Microbiology
Biology 4110** - Advances in Genetics, Molecular and Cellular Biology
Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Chemistry 2000 - Chemical Equilibrium and Electrochemistry
Chemistry 2410 - Introduction to Analytical Chemistry
Chemistry 2500 - Organic Chemistry I
Chemistry 2600 - Organic Chemistry II
Chemistry 2710 - Chemical Kinetics
Chemistry 2720 - Introduction to Chemical Thermodynamics
Chemistry 3310 - Biochemistry I
Chemistry 3320 - Biochemistry II
Chemistry 4300 - Proteins and Nucleic Acids
Mathematics 1560 - Calculus I
Physics 2000 - Introduction to Physics II

One of: Physics 1000 - Introduction to Physics I
Physics 1050 - Introduction to Biophysics

*****Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

In addition, students are required to take a minimum of five other Science courses. Depending on the area of expertise that the student is trying to develop within the major (e.g., a major with emphasis on animals, plants, ecology or neuroscience), it is strongly recommended that the additional courses be selected from the following:

Biology 3120 - Developmental Biology
Biology 3500 - Seminar in Biological Sciences I
Botany 3300 - Plant Physiology
Chemistry 3410** - Instrumental Methods of Analysis
Chemistry 3420** - Electroanalytical Chemistry
Mathematics 2560 - Calculus II
Psychology 2600 - Brain and Behaviour
Psychology 3600 - Introduction to Neuroscience
Psychology 3670 (3601) - Developmental Neurobiology
Zoology 3700 - Animal Physiology I
Zoology 3710 - Animal Physiology II

An Independent Study to be taken in the field of Biochemistry within the Department of Biological Sciences or Chemistry or with the Neurosciences Group in the Department of Psychology

******These courses typically are offered only on alternate years.*

Suggested Sequencing Plan

Year One

Fall	*Spring*
Biology 1010	Biology 1020
Chemistry 1000	Biology 2000
Mathematics 1560	Chemistry 2000
Physics 1000 or 1050	Mathematics 2560 (recommended)
Liberal Education elective	Liberal Education elective

Year Two

Fall	**Spring**
Chemistry 2410	Chemistry 2600
Chemistry 2500	Physics 2000
Liberal Education elective	Liberal Education elective
Liberal Education elective	Liberal Education elective
Liberal Education elective	Elective

Year Three

Fall	**Spring**
Biology 3000	Biology 3110**
Chemistry 2720*	Biology 3120 (if chosen)
Chemistry 3310	Biology 3200 (Microbiology 2000)
Liberal Education elective	Chemistry 2710*
Elective	Chemistry 3320

Year Four

Fall	**Spring**
Biology 4110***	Chemistry 4300
Elective 3000/4000 level	Elective 3000/4000 level
Elective 3000/4000 level	Elective
Elective 3000/4000 level	Elective
Elective	Elective

** Semester sequence of these two courses may be interchanged periodically. Please check with the Department of Chemistry.*

*** Semester of offering for Biology 3110 may vary. Please check with the Department of Biological Sciences.*

**** Biology 4110 is offered only on alternate years and semester of offering may vary. Please check with the Department of Biological Sciences.*

Note: *Students are strongly advised to consult with the Departments of Biological Sciences and Chemistry regarding the sequencing of the courses above.*

Biochemistry

Total number of courses required for the Biochemistry major 20

(Independent Study - Optional; may not be counted in required courses for major)

g. Biological Sciences

The Department of Biological Sciences offers courses in Biology, Botany and Zoology.

The curriculum is designed to give basic studies in each area during a student's first two years, with subsequent opportunity for specialization. Advanced courses offer opportunity for independent laboratory or field research projects in genetics, cellular and molecular biology, plant and animal ecology, plant taxonomy, morphology and physiology, parasitology, animal morphology, physiology and behaviour.

Required courses include:

Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 1020* - Diversity of LIfe
Biology 2000 - Principles of Genetics
Biology 2200 - Principles of Ecology
Biology 3300 - Evolution
Biology 3500 - Seminar in Biological Sciences I

A minimum of two 3000- or 4000-level courses in each of the following areas: Biology, Botany and Zoology. Courses cross-listed with other departments, schools or faculties are not eligible to be counted as required courses. Botany 2150 may replace one 3000- or 4000-level course in Botany; Zoology 2150 may replace one 3000- or 4000-level course in Zoology.

A minimum of 12 courses in Biological Sciences

**Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

Required cognates:

In addition to the 12 courses in Biological Sciences, majors must also complete courses in cognate disciplines, including the following four courses:

Two courses in Chemistry (preferably Chemistry 2100 - Elements of Organic Chemistry I and Chemistry 2200 - Elements of Organic Chemistry II)

One course in Physics (preferably Physics 1050 - Introduction to Biophysics)

One course in introductory Statistics (Statistics 1770 - Introduction to Probability and Statistics, Psychology 3010 (2400) - Introduction to Statistics in Psychological Research or Sociology 2130 - Social Statistics), Computer Science or Mathematics

Recommended for students emphasizing cellular and molecular biology:

Chemistry 3310 - Biochemistry I

Majors should complete at least one course at the 4000 level.

Suggested Sequencing Plan

Year One

Fall	**Spring**
Biology 1010	Biology 1010 (if not taken in Fall)
Biology 1020	Biology 1020 (if not taken in Fall)
Chemistry 1000 (recommended)	Biology 2000
Physics 1050	Statistics 1770

Year Two

Fall	*Spring*
Biology 2200	Biology 2000 (if not taken last year)
Chemistry 2100	Chemistry 2200
One or more 3000-level course(s)	One or more 3000-level course(s)

Year Three*

Fall	*Spring*
One or more 3000-level course(s)	Biology 3300
	Biology 3500
	One or more 3000-level course(s)

***Note**: Other courses in Biological Sciences should be taken in these semesters and in Year Four to complete major requirements and satisfy individual interests.*

Students interested in the combined Bachelor of Science/Bachelor of Education (B.Sc./B.Ed.) or Bachelor of Science/Bachelor of Management (B.Sc./B.Mgt.) should refer to **Part 11 - Combined Degrees, Sections 3 and 8 respectively**, for the appropriate Biological Sciences major.

Biological Sciences

Minimum number of Biological Sciences courses required 12
Number of cognate courses required 4

Total number of courses required for the Biological Sciences major 16

(Independent Study - Optional; may not be counted in required courses for major)

h. Canadian Studies

The multidisciplinary major in Canadian Studies provides a broad understanding of Canada and allows students to concentrate on one or two major aspects of Canada and Canadian life. Further details are available from the Coordinator of Canadian Studies.

The Canadian Studies major requires 20 courses, including English and French, and a minimum of two courses in three additional disciplines. At least six courses must be at the 3000/4000 level, including no more than six from one discipline and one Independent Study course.

Required core:

A minimum of eight courses and a maximum of 12 courses from the following list:

English 2000 - Survey of Canadian Literature

One course in French-Canadian literature in English (Modern Languages 2100 or an approved equivalent)

Two of: French 1000 - Beginners' French I
French 1100 - Beginners' French II
French 1500 - Intermediate Language I
French 2200 - Culture and Civilization I
French 2250 - French Immersion
French 2300 - Introduction to Literature

Two of: Economics 2200 - Economic History of Canada
History 2710 - Canada to 1867
History 2720 - Canada since 1867

Two of: Anthropology 2100 - Contemporary Canadian Communities
Geography 2600 - Canada
Native American Studies 2100 - Aboriginal Peoples and Law
Native American Studies 2400 - Traditional Aboriginal Political Economy
Native American Studies 2500 - Canadian Indian History
Native American Studies 2800 - Native American Politics
Political Science 2210 - Canadian Politics and Government
Political Science 2240 - The Administration of Justice
Political Science 2410 - Public Administration
Sociology 2010 - Canadian Society
Sociology 2410 - Women, Men and Society

Options:

A minimum of seven and a maximum of 11 courses from the following 3000- and 4000-level courses:

Art 3240 - Canadian Art History
Economics 3210 - Natural Resource Economics
Economics 3020 - Economic History
Economics 4300 - Agricultural Policy II
English 3001 - Canadian Poetry
English 3002 - Canadian Drama
English 3003 - Canadian Fiction
English 4000 - Seminars in Canadian Literature (Series)
French 3200 - Culture and Civilization II (French-Canadian)
French 3500 - Survey of French or French-Canadian Literature (French-Canada)
French 4600 - Seminar in Literature (French-Canada - 19th Century)
French 4600 - Seminar in Literature (French-Canada - 20th Century)
French 4600 - Seminar in Literature (French-Canada - Post-War)
Geography 3600 - Historical Geography of Canada
History 3701 - History of Canadian External Relations
History 3703 - History of Western Canada
History 3704 - Lethbridge History: Investigation in Local History
History 4070 - Seminars in Canadian History (Series)

Native American Studies 3100 - Law and Aboriginal Development in Canada
Native American Studies 3300 - Canadian Indian Art History and Theory
Native American Studies 3400 - Contemporary Aboriginal Political Economy
Native American Studies 3500 - History of Prairie Indian Treaties
Native American Studies 3700 - Native American Health
Native American Studies 4400 - Indians and the Criminal Justice System
Native American Studies 4700 - The Métis
Physical Education 3810 - Community Recreation
Political Science 3120 - Canadian Foreign Policy
Political Science 3210 - Urban Government and Politics
Political Science 3230 - Provincial Government and Politics
Political Science 3241 (3240) - Canadian Constitutional Law I: The Structures and Powers
Political Science 3242 (3240) - Canadian Constitutional Law II: The Charter
Political Science 3250 - Alberta Politics and Government
Political Science 3260 - Canadian Public Policy
Political Science 3730 - Mass Media and Politics
Political Science 4710 - Canadian Political Parties
Religious Studies 3560 - Mormon Society and Culture

Selected Topics courses: A number of Special Topics courses apply to Canadian Studies. Since these courses are offered on an irregular basis, they can be approved only on an individual basis.

Independent Study

Each student must complete one Independent Study course in Canadian Studies at the 3000 or 4000 level. This course involves preferably more than one discipline.

A maximum of five Independent Study courses may count for the major credit.

Canadian Studies

(Independent Study - Required in major)

Total number of courses required for the Canadian Studies major 20

i. Chemistry

The Department of Chemistry offers courses in the areas of analytical, physical, organic and inorganic chemistry, and in Biochemistry. The curriculum is designed not only for the needs of those who want to pursue a major in Chemistry or Biochemistry but also for those in cognate disciplines, such as Biology, and for those who require Chemistry courses in preparation for transferring to a professional school such as medicine or dentistry. The requirements for the major in Chemistry are outlined below. The major in Biochemistry is offered jointly by the Departments of Biology and Chemistry and its requirements are outlined separately under **Biochemistry** elsewhere in this Section of the Calendar.

Those students who require one year of introductory general Chemistry for a transfer program should take Chemistry 1000 and 2000. For those who require a one-year course in organic chemistry there are two options. The first option, consisting of Chemistry 2100 and 2200, is for those who need organic chemistry as part of a one-year transfer program or for those who want a strong emphasis on the biochemical aspects of organic chemistry. The second organic chemistry option is Chemistry 2500 and 2600 for those who want to keep open the possibility of majoring in either Chemistry or Biochemistry or for those who might wish to take a subsequent course in organic chemistry.

The Major in Chemistry for the B.Sc. Degree

The program for the B.Sc. or BASc. degree with a major in Chemistry requires 40 courses of which a minimum of 15 courses in Chemistry is required and a maximum of 20 courses in Chemistry is allowed. In addition, four courses in Mathematics and two courses in Physics are required. The courses for the major are given below under three lists. List A contains specified Chemistry courses that must be taken; List B contains courses from which two must be selected; List C sets out the four Mathematics and two Physics courses that must be taken.

List A - Specified Chemistry Courses

The following Chemistry courses must be taken:

Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Chemistry 2000 - Chemical Equilibrium and Electrochemistry
Chemistry 2410 - Introduction to Analytical Chemistry
Chemistry 2500 - Organic Chemistry I
Chemistry 2600 - Organic Chemistry II
Chemistry 2710 - Chemical Kinetics
Chemistry 2720 - Introduction to Chemical Thermodynamics
Chemistry 2810 - Introduction to Inorganic Chemistry
Chemistry 3500 - Organic Chemistry III
Chemistry 3730 - Quantum Principles and Spectroscopy
Chemistry 4000 - Advanced Chemistry (Series)

One of: Chemistry 3410 - Instrumental Methods of Analysis
Chemistry 3420 - Electroanalytical Chemistry

One of: Chemistry 3810 - Chemistry of the Main Group Elements
Chemistry 3820 - Chemistry of the Transition Elements

List B - Elective Chemistry Courses

Choose two courses from this list to complete the requirement of a minimum of 15 courses in Chemistry:

Chemistry 3310 - Biochemistry I
Chemistry 3320 - Biochemistry II
Chemistry 3410* - Instrumental Methods of Analysis
Chemistry 3420* - Electroanalytical Chemistry
Chemistry 3550 - Organic Chemistry IV
Chemistry 3600 - Organic Chemistry V
Chemistry 3710 - Thermodynamics of Electrolytes and Non-Electrolytes
Chemistry 3740 - The Statistical Approach in Chemistry
Chemistry 3810* - Chemistry of the Main Group Elements
Chemistry 3820* - Chemistry of the Transition Elements
Chemistry 4000* - Advanced Chemistry (Series)

**These courses can only be used if they have not been used to meet the requirements under List A. Chemistry 4000 (Series) can be taken more than once provided the content is different in the two offerings. Thus, if it has been taken twice, it can be used to meet requirements under both List A and List B.*

List C - Required Mathematics and Physics Courses

A total of six courses in Mathematics and Physics must be taken for the major in Chemistry. These are:

Mathematics 1560 - Calculus I
Mathematics 2560 - Calculus II
Physics 1000 - Introduction to Physics I
Physics 2000 - Introduction to Physics II
Two more courses chosen from among all Mathematics courses, Physics 2800 and 3800 (Mathematical Physics) and Statistics courses

In choosing these two courses, students should consider courses in linear algebra (Mathematics 1410 (1450)), calculus (Mathematics 2570 and 2580), differential equations (Mathematics 2800) and statistics (Statistics 1770). Alternatively, students can take Physics 2800 and 3800 to replace Mathematics 1410 (1450), 2570 and 2800.

This program has been accredited by the Canadian Society for Chemistry (CSC) which is the national organization representing chemists. Students who complete a B.Sc. degree with the major in Chemistry outlined above will have a degree accredited by the CSC. Those who plan to pursue graduate studies in Chemistry should take more than the minimum of 15 courses in Chemistry and should obtain advice on their program from the Department.

Chemistry courses are organized in sequences and must be taken in the proper order. In addition, several of the 3000-level courses are offered only in alternate years. As a result, careful planning of the program for the major in Chemistry is required in order to be in position to take courses when they are offered. Consequently, students who intend to pursue a degree program with a major in Chemistry are advised to seek help in planning their programs from the Departmental Advisor or from any faculty member in the Chemistry Department at an early stage of their studies.

Students interested in the combined Bachelor of Science/Bachelor of Education (B.Sc./B.Ed.) or Bachelor of Science/Bachelor of Management (B.Sc./B.Mgt.) should refer to **Part 11 - Combined Degrees, Sections 3 and 8 respectively**, for the appropriate Chemistry major.

(See also **Biochemistry**).

Chemistry

Minimum number of Chemistry courses required 15
Number of cognate courses required 6

Total number of courses required for the Chemistry major 21

(Independent Study - Optional; may not be counted in required courses for major)

j. Computer Science

See **Mathematics and Computer Science (Section 17r., pp. 94-95)**.

k. Dramatic Arts

The Department of Dramatic Arts offers courses in various aspects of the discipline.

Students majoring in Dramatic Arts for the B.A. or BASc. degrees must complete 13 to 20 courses in Dramatic Arts.

Required courses include:

Drama 1000 - Introduction to Dramatic Arts
Drama 2120 - History and Development of Theatre I
Drama 2130 - History and Development of Theatre II

At least five courses in the major must be at or above the 3000 level, with at least one at the 4000 level.

Unless otherwise indicated, Drama 1000 is a prerequisite for all other Drama courses.

It is recommended that students consider courses from the Dramatic Literature series of the Department of English.

Courses in Drama are offered by the School of Fine Arts. Drama courses taken by students registered in the Faculty of Arts and Science count in their programs as Arts and Science courses.

Students interested in a Bachelor of Fine Arts (Dramatic Arts) should refer to **Part 7 - School of Fine Arts,** for details.

Dramatic Arts

Minimum number of Drama courses required 13
Number of cognate courses required 0

Total number of courses required for the Dramatic Arts major 13

(Independent Study - Optional; may be counted in required courses for major)

l. Economics

Economics is the study of the allocation of scarce resources by societies to meet individual and social wants. The Department of Economics offers a number of courses in microeconomics and macroeconomics. These provide the theoretical framework within which contemporary issues, such as pollution, non-renewable natural resources, free trade, agricultural subsidies, the new economic world order, interest rates, government deficits, unemployment, inflation, poverty and third world development can be analyzed and appropriate policies can be recommended.

Students majoring in Economics are required to complete a minimum of 13 and a maximum of 20 courses. The following courses are required:

Required courses include:

Economics 1001 - Introduction to Economics
Economics 2000 - Principles of Macro-economics
Economics 2001 - Principles of Micro-economics
Economics 2900 - Quantitative Methods in Economics
Economics 3000 - Intermediate Macro-economic Theory
Economics 3001 - Intermediate Micro-economic Theory

At least three Economics courses at the 4000 level.

Economics 2001 is the prerequisite for most 3000-level courses in Economics and Economics 2000 is the prerequisite for still other higher level courses in Economics. Economics 3001 is the prerequisite for most 4000-level courses in Economics and students majoring in Economics are strongly advised to take it during their second or third year. Please note that credit will not be granted for both Economics 2900 and Statistics 2780.

It is recommended that Economics majors include courses in Mathematics, especially courses in calculus, as part of their overall programs. It is also strongly recommended that students who are considering graduate studies in Economics include in their programs as many 4000-level courses as possible, and in particular the following courses:

Economics 4001 - Advanced Microeconomic Theory
Economics 4020 - Econometrics
Economics 4050 - Advanced Macroeconomic Theory
Economics 4150 - Mathematical Economics

Provided the student completes Economics 1001 in the Fall of Year One, the sequencing plan suggested below leads to the completion of all specified courses for a major by the end of the student's second year. Note that Economics 1001, 2000, 2001 and 2900 are offered at least once per semester, while Economics 3000 and 3001 are offered annually only, as indicated below.

Year One

Fall	***Spring***
Economics 1001	Economics 2001

Year Two

Fall	***Spring***
Economics 2000	Economics 3000
Economics 3001	Economics 2900

Economics

Minimum number of Economics courses required 13
Number of cognate courses required 0

Total number of courses required for the Economics major 13

(Independent Study - Optional; may be counted in required courses for major)

m. English

The Department of English offers courses in the understanding and criticism of English literature of different genres and different historical periods; there are also courses on the theory of English literature and criticism, and on rhetoric and creative writing.

The English curriculum serves the needs and interests of all students: those embarking on an extensive and systematic study of literature and literary forms, and those wishing to experience literature on a slightly less rigorous basis in order to complement their other studies.

Courses which figure prominently in the program for English majors are not intended exclusively for English majors. General interest courses in the 3700 series are intended for majors and non-majors.

English 1900 or a previous course in English is the prerequisite for all other English courses. English 1900

prepares students for a variety of courses at the 2000 level. The central emphasis of English 1900 is on language awareness and word sensitivity — on language in several contexts including the literary/poetic. The course is in no way remedial, nor is it primarily a course on composition or essay-report writing.

There is a system of 2000-level prerequisites for some of the 3000- and 4000-level courses and of recommended backgrounds at the 3000 level for the 4000-level courses. This system applies to all students, not just English majors. Students should consult the individual course listings elsewhere in this Calendar for more specific information.

For students majoring in English, there are certain program requirements, a particular range and selection of courses in certain groupings, as follows:

English 1900 - The World of Words

Five of: English 2000 - Survey of Canadian Literature
English 2100 - Poetry
English 2200 - Fundamentals of Drama
English 2300 - Prose Fiction
English 2400 - Survey of English Literature I
English 2450 - Survey of English Literature II
English 2500 - Survey of American Literature I
English 2550 - Survey of American Literature II
English 2800 - Rhetoric
English 2900 - The English Language

One of: English 3401 - Medieval Literature
English 3601 - Chaucer
English 3101 - Metaphysical and Cavalier Poetry
English 3201 - Elizabethan and Jacobean Drama
English 3402 - Renaissance Literature
English 3602 - Shakespeare
English 3102 - 18th-Century Poetry
English 3202 - Restoration and 18th-Century Drama
English 3301 - 18th-Century Novel

One of: English 3103 - Romantic Poetry
English 3104 - Victorian Poetry
English 3105 - Modern Poetry
English 3203 - Modern British, Irish and American Drama
English 3204 - Contemporary British and Irish Drama
English 3205 - Modern European Drama
English 3302 - 19th-Century British Novel
English 3303 - Modern British Novel
English 3304 - 19th-Century American Novel
English 3305 - Modern American Novel

One of: English 3001 - Canadian Poetry
English 3002 - Canadian Drama
English 3003 - Canadian Fiction
English 3700 - Genres and Forms Series
English 3800 - Creative Writing
English 3880 - Studies in Rhetoric Series
English 3901 - History of the English Language

One of: English 4000 - Seminars in Canadian Literature Series
English 4400 - Seminars and Tutorials in English Literature and Language Series
English 4600 - Major Authors Series
English 4800 - Advanced Creative Writing Workshop

Three additional 3000- or 4000-level courses in English.

All students majoring in English are required to take a minimum of 13 courses, excluding Independent or Applied Studies. At least seven must be at the 3000 and 4000 levels, of which at least one must be at the 4000 level.

Independent Studies and Applied Studies are definitely encouraged beyond the minimum 13 courses required for the major.

Fourth-year English majors are especially encouraged to become involved in seminars and Independent Studies at the 4000 level. Suggestions for unique and imaginative projects and approaches to fourth-year studies are welcomed by the Department.

English

Minimum number of English courses required 13
Number of cognate courses required 0

Total number of courses required for the English major 13

(Independent Study - Optional; may not be counted in required courses for major)

n. Environmental Science

The Departments of Biological Sciences and Geography jointly offer instruction leading to a post-diploma major in Environmental Science for students who have completed the Diploma in Renewable Resource Management or in Watershed Management at the Lethbridge Community College, or another approved college diploma program. The curriculum for the post-diploma B.Sc. in Environmental Science is designed to provide a complementary training in both biological sciences and geography to students with previous technical training.

Required courses include:

A minimum of 14 courses, including 10 courses in Biological Sciences and Geography and one in Environmental Science as follows:

Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 2000 - Principles of Genetics
Three 3000- or 4000-level courses in Biological Sciences, one of which must be a Botany course
Environmental Science 4000 - Selected Studies in Environmental Science II (Series)

Geography 2015 - Weather and Climate
Geography 2535 - Introduction to Planning
Geography 2700 - Geographical Data and Analysis
Geography 3740 - Geographic Information Systems

One additional 3000- or 4000-level Geography course

Students may not take for credit those courses offered by Biological Sciences or Geography that have close equivalents in the Renewable Resource Management or Watershed Management Diploma Programs at the Lethbridge Community College. These excluded courses are: Biology 1020 (students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement), Biology 2200, Botany 2150, Geography 1000, Geography 2710, Geography 2740, Geography 4050, Geology 2060 and Geology 3020.

Three required cognates as follows:

Two courses in Chemistry (preferably: Chemistry 2100 - Elements of Organic Chemistry I and Chemistry 2200 - Elements of Organic Chemistry II)

One course in Physics (preferably Physics 1050 - Introduction to Biophysics)

Majors are advised to take one Independent Study or Applied Studies course.

Note: *Students who began the program prior to May 1, 1996, should consult the Program Coordinator for Environmental Science concerning changes in the Biological Sciences curriculum.*

Students who have completed another approved college diploma from a college other than the Lethbridge Community College should consult the Program Coordinator for Environmental Science concerning possible adjustments to the above program requirements.

Environmental Science

Minimum number of Biological Sciences, Geography and Environmental Science courses required 11
Number of cognate courses required 3

Total number of courses required for the Environmental Science major 14

(Independent Study - Optional; may be counted in required courses for major)

o. Geography

The mission of the Department of Geography is to pursue excellence in teaching and research in the closely related areas of Geography, Geology, Archaeology and Urban and Regional Studies, all of which deal with the human and natural environment, and spatial analysis. A student may choose Geography as a major in three degree programs (B.A., B.Sc. or BASc.) and four combined degree programs (B.A./B.Ed., B.Sc./B.Ed., B.A./B.Mgt. or B.Sc./B.Mgt.).

Geography majors in the B.A., B.Sc. or BASc. programs are required to complete 13 courses in Geography and at least one course in Archaeology. They may also complete Geology courses and further Archaeology courses within the Department's offerings.

Building on our disciplinary strengths, the Department offers a set of core courses which are an essential introduction to the breadth of the discipline, and presents a variety of more advanced courses which represent the expertise of the faculty. Core courses are offered at least once in every academic year while advanced optional courses may only be offered in alternate years. Students should plan their advanced courses with this in mind.

In Archaeology, a single introductory course, which is required of all Geography majors, opens to more advanced courses falling within the two main themes of Old-World and New-World archaeology. The Department administers the multidisciplinary major in Urban and Regional Studies and houses the Water Resources Institute.

Courses in Physical Geography and those involving geographical techniques are Science courses, while those in Human Geography are Social Science courses. All Geography majors will take a mixture of Science and Social Science courses from which an understanding of the integrative nature of the discipline will emerge. The choice between a Bachelor of Arts and a Bachelor of Science will be determined by the balance of optional Geography courses pursued and on the cognate courses selected outside the major.

While our curriculum is geared mainly to Geography major programs, the Department is also committed to enhancing the study of Geography, Geology and Archaeology throughout the University, and to providing courses which fulfill the General Liberal Education Requirement. Our four introductory courses (Geography 1000, 2200, 2535; Archaeology 1000) are open to all students of the University, and two service courses are offered, without prerequisites, for students in other programs where a knowledge of world regional geography (Geography 2000), or the geography of Canada (Geography 2600) is required.

Required courses for the major:

All Geography majors for the B.A., B.Sc. or BASc. are required to complete a minimum of 13 courses in Geography following the pattern described below. A maximum of 20 Geography courses may be included in a degree program. In addition, Geography majors must complete six courses in cognate disciplines following a prescribed pattern. The requirements outside Geography are intended to complement areas of departmental strength. Students are encouraged to seek advice from departmental faculty in developing a program of study.

1. **All Geography majors must complete seven required core courses in Geography:**

   Geography 1000 - Introduction to Physical Geography
   Geography 2015 - Weather and Climate
   Geography 2030 - Geomorphology
   Geography 2060 - Environmental Systems
   Geography 2200 - Introduction to Human Geography
   Geography 2210 - Urban and Economic Geography
   Geography 2700 - Geographical Data and Analysis

   Note: *Geography 1000 and 2200 are complementary in that the former introduces students to the geography of the physical environment while Geography 2200 deals with an introduction to the geography of the human environment.*

2. Geography majors for the B.A., B.Sc. or BASc. degrees must complete at least three courses from the following list of courses dealing with geographical techniques:

   Geography 2710 - Map Interpretation
   Geography 3700 (2720) - Cartography
   Geography 3710 (2730) - Field Techniques in the Earth Sciences
   Geography 3720 (2740) - Introduction to Remote Sensing
   Geography 3730 - Spatial Statistics
   Geography 3740 - Geographic Information Systems

3. Geography majors for the B.A., B.Sc. or BASc. degrees must complete three further courses in Geography, Geology or Archaeology at the 3000 or 4000 level, at least one of which must be at the 4000 level. Courses may be selected from those listed in (2) above.

4. Students considering entry to a graduate program in Geography are advised to complete Geography 4900. They should also complete a 4000-level Independent Study course in Geography in their final year.

5. **Cognate requirements** for Geography majors (with the exception of Combined Degrees candidates):

   a. All Geography majors (B.A., B.Sc. or BASc.) must complete:

      Archaeology 1000 - Introduction to Archaeology

      One of: Statistics 1770 - Introduction to Probability and Statistics
      Psychology 3010 (2400) - Introduction to Statistics in Psychological Research
      Sociology 2130 - Social Statistics
      An equivalent course

      One of: Computer Science 1000 - Introduction to Computer Science
      Computer Science 1620 (1600) - Introduction to a Programming Language
      Management 2060 (2061) - Introduction to Information Technology

   b. In addition, Geography majors pursuing a B.A. must complete:

      Three courses from the offerings in Anthropology, Economics, Native American Studies, Political Science and Sociology. At least one course must be at the 2000 level or above.

   c. Geography majors pursuing a B.Sc. must complete:

      Three courses from the offerings in Biological Sciences, Chemistry, Mathematics and Computer Science and Physics. At least one course must at the 2000 level or above.

   d. Geography majors pursuing a BASc. must complete:

      Three courses, at least one of which will be from the offerings in Anthropology, Economics, Native American Studies, Political Science and Sociology, and at least one of which will be from the offerings in Biological Sciences, Mathematics, Chemistry and Physics.

Students wishing to emphasize Urban and Regional issues should consult the Multidisciplinary program in Urban and Regional studies (see **Section 17.ff.**).

Geography

Minimum number of Geography courses required 13
Number of cognate courses required 6

Total number of courses required for the Geography major 19

(Independent Study - Optional; may be counted in required courses for major)

p. History

History is a division of humane letters with analytical ties to the scientific tradition. It describes and evaluates the significant past as observed in parent civilizations and their derivatives and composites. Encompassing a wide range of human events and historical conditions, history necessarily complements other disciplines in the University.

The Department of History offers instruction in aspects of the social, economic, political and cultural histories of local, regional, national, continental and international areas from ancient civilizations to present-day societies.

For students majoring in History there are certain program requirements, a particular range and selection of courses in geographical areas, periods, themes and levels as follows:

Required courses for the major in History for the B.A. or BASc. Degree include:

History 1000 - Western Civilization

Four of: History 2001 - Main Themes in Ancient History
History 2200 - Main Themes in Russian History
History 2250 - China in the 19th and 20th Centuries
OR History 2290 - Main Themes in East Asian History
History 2300 - Latin America
History 2500 - Themes in British Social and Political History
History 2600 - Main Themes in the History of the United States
History 2800 - History of Women
Religious Studies 2500 - Christianity

One of: History 2102 - Early Modern Europe - 1500-1750
History 2150 - The Politics of Europe - 1750-1914

One of: History 2710 - Canada to 1867
History 2720 - Canada Since 1867

Six History courses at the 3000 level or higher, including at least two 4000-level courses (excluding History 4980 - Applied Studies and History 4990 - Independent Studies). Religious Studies 3510 - The Early Church - may be counted as one of the six 3000-level courses required for a major in History.

The Department strongly advises students intending to pursue graduate studies to take History 4000 and 4990. History majors should meet with the Department Advisor once a semester in order to ensure that an appropriate program is being planned.

Students interested in the combined Bachelor of Arts/Bachelor of Education (B.A./B.Ed.) or Bachelor of Arts/Bachelor of Management (B.A./B.Mgt.) should refer to **Part 11 - Combined Degrees, Sections 3 and 8 respectively**, for the appropriate History major.

History

Minimum number of History courses required 13
Number of cognate courses required 0

Total number of courses required for the History major 13

(Independent Study - Optional; may be counted in required courses for major)

q. Independent Study

Independent Study may be taken for credit inside or outside of the student's major subject or in an interdisciplinary mode. Some major programs require an Independent Study component. A maximum of five Independent Study courses may count for degree credit. Combined Degrees students may count only three. Independent Study numbers 2990, 3990 and 4990 indicate the level of advancement.

Independent Study may be elected as early as the second semester or as late as the last, depending upon the capability of the student for undertaking academic work with a minimum of guidance. Independent Study may take a variety of forms including library research, laboratory research projects or field study. Each Department provides detailed information on its available resources for support of Independent Study.

Admission to Independent Study is achieved through consent of the instructor, who agrees to guide the Study, and by approval of the Department and the Assistant Dean (Curriculum and Advising). Enrollment may be for a regular semester or during a Summer Session. Credit for Independent Study is at the discretion of the Department, upon recommendation of the instructor. Grades are due at the end of the term of registration, as for regular courses.

Since Independent Study is intended to expand a student's program beyond the limits of the regular curriculum, it may not be used to duplicate course offerings.

r. Mathematics and Computer Science

The Department offers courses in Computer Science, Mathematics and Statistics. An appropriate selection of such courses will lead to a major in Mathematics or to a major in Computer Science.

All 1000-level courses offered by the Department are introductory, but require a 30-level Mathematics course as prerequisite.

The Department strongly recommends that a student attain a grade of C or better in any course used to satisfy prerequisites for courses offered by the Department.

Students intending to take two or more calculus courses at university are advised to include Math 31, Calculus (or its equivalent), in their high school studies.

Required courses for a Mathematics major include:

Mathematics 1410 (1450) - Elementary Linear Algebra
Mathematics 1560 - Calculus I
Mathematics 2000 (2450) - Mathematical Concepts
Mathematics 2560 - Calculus II
Mathematics 2570 - Calculus III
Mathematics 2580 - Calculus IV
Mathematics 3400 - Group and Ring Theory
Mathematics 3410 (3450) - Linear Algebra
Mathematics 3500 - Analysis

Statistics 1770 - Introduction to Probability and Statistics
Statistics 2780 - Statistical Inference

Three additional 3000/4000-level Mathematics or Statistics courses offered by the Department of Mathematics and Computer Science, at least one of which must be a regularly offered 4000-level course (excluding Mathematics or Statistics 4980 - Applied Studies and Mathematics or Statistics 4990 - Independent Studies). One of the additional 3000-level courses may be replaced by a course from the following list:

Computer Science 3630 - Theoretical Foundations of Computing
Computer Science 3670 - Numerical Methods
Physics 3200* - Mechanics
Physics 3800* - Methods of Theoretical Physics

**Students who intend to take Physics 3200 or 3800 as courses contributing to the Mathematics major should carefully plan their program to include the required prerequisites.*

Required cognates:

Computer Science 1620 (1600) - Introduction to a Programming Language
Computer Science 2620 (2650) - Advanced Programming Techniques

Note: *Mathematics 1510 may not be counted towards the requirements for a major in Mathematics and is not suitable for students requiring more than one semester of Calculus.*

For students intending to pursue a major in Mathematics, the following courses should be included in the first year of studies: Mathematics 1410 (1450), Mathematics 1560, Mathematics 2000 (2450), Mathematics 2560 and Mathematics 3410 (3450). The second year of studies should include Mathematics 2570 and Mathematics 2580.

Mathematics

Minimum number of Mathematics courses required 14
Number of cognate courses required 2

Total number of courses required for the Mathematics major 16

(Independent Study - Optional; may be counted in required courses for major)

Required courses for a Computer Science major include:

Computer Science 1620 (1600) - Introduction to a Programming Language
Computer Science 2610 - Introduction to Digital Systems
Computer Science 2620 (2650) - Advanced Programming Techniques
Computer Science 2660 - File Processing
Computer Science 2690 - Systems Programming
Computer Science 3615 - Computer Architecture
Computer Science 3620 - Data Structures

Six additional 3000/4000-level Computer Science courses offered by the Department of Mathematics and Computer Science, at least one of which must be a regularly offered 4000-level course (excluding Computer Science 4980 - Applied Studies and Computer Science 4990 - Independent Study). One of the additional 3000-level courses may be replaced by a course from the following list:

Mathematics 2000 (2450) - Mathematical Concepts
Physics 3900 - Intermediate Experimental Physics (Series): Digital Electronics
Any 3000/4000-level Mathematics course

Required Cognates:

Mathematics 1410 (1450) - Elementary Linear Algebra
Mathematics 2865 - Combinatorial Mathematics

Recommended courses include:

Mathematics 2000 (2450) - Mathematical Concepts

It is strongly recommended that Computer Science majors include Mathematics 2000 (2450) and Statistics 1770 early in their program, as well as additional Mathematics courses. Students intending to take Computer Science 3630, 3670 or Physics 3900 should plan carefully to include the appropriate Mathematics or Physics prerequisites in their programs.

Note that Computer Science 1000 may NOT be included among the required courses for a Computer Science major.

Some senior courses are scheduled for alternate years. Since these courses are frequently sequential and dependent upon adequate preparation, students are urged to seek advice before the end of their third semester in planning a major and selecting courses.

Students should note that for Arts and Science regulations governing degree requirements. Computer Science may be treated as a department separate from Mathematics/Statistics.

Computer Science

Minimum number of Computer Science courses required 13
Number of cognate courses required 2

Total number of courses required for the Computer Science major 15

(Independent Study - Optional; may be counted in required courses for major)

s. Modern Languages

1. General Information

The Department of Modern Languages offers courses in the French and German languages, as well as in the understanding and appreciation of cultures, civilizations and literatures of countries where these are national languages. Courses are also offered in Linguistics and Spanish, as well as introductory Japanese and Chinese languages.

The Modern Languages curriculum serves the needs and interests of all students, both those embarking upon an extensive and systematic study of language, culture/civilization and literature, and those wishing to study these subjects on a more limited basis.

Unless otherwise stated, the language of instruction will be the language being studied.

The 1000-numbered courses prepare students for a variety of courses at the 2000 level. A 2000-level course is generally necessary before a student may proceed to the 3000 or 4000 levels. For further information on prerequisites, students should consult with the appropriate First-Year Language Coordinator in the Department of Modern Languages.

2. Placement

Students without any high school credit in a language take the 1000 and 1100 courses or 1200 and 1300 courses, as these courses are for students with little or no knowledge of a language.

Students with some high school credits but without matriculation in a language should apply for the Department of Modern Languages Placement Test before registering, to determine whether they should enrol in the 1000 or the 1100 course (French, German, Spanish) or the 1200 or 1300 course (Chinese, Japanese).

Students with high school matriculation in a language should enrol in the 1500 course.

All students registering in 1000, 1100, 1200, 1300 and 1500-level courses must write the Department of Modern Languages Placement Test to determine whether they are registered in the appropriate course (see the section regarding **Advanced Placement, Part 4 - Academic Regulations**).

Students should consult the Department of Modern Languages concerning scheduling of the Placement Test.

Graduates of French Language Arts 30 or *Langue et Littérature* 30 should enrol in French 2000. Graduates of French Language Arts 30 or *Langue et Littérature* 30 may also enrol in French 2200, 2300 or 2400 upon receipt of a prerequisite waiver from the Department of Modern Languages.

3. Independent Study

Students interested in undertaking an Independent Study in the Department of Modern Languages should read: (1) the Department Policy on Independent Study and (2) the list of Study Topics currently offered in the Department. Copies of both documents and application forms may be obtained from the Department Advisor in Modern Languages or from the Department secretary.

4. Majors: General Information

The Department of Modern Languages offers a major in French, a major in German and a major in French/German. A maximum of 20 courses from the Department of Modern Languages may be counted toward any of these majors. Requirements for each of these majors are outlined below.

It is recommended that as part of the requirements for the major students should participate for one semester in a Visiting Student program approved by the Department.

With the approval of the Department Chair, students who have completed a minimum of two courses at the 2000 level in French with a minimum grade of C- in each may take advantage of the Department's French Visiting Student program. For details, see the French Off-Campus Studies Coordinator in the Department of Modern Languages.

With the approval of the Department Chair, students who have completed a minimum of two courses at the 2000 level in German with a minimum grade of C- in each may take advantage of the Department's German Visiting Student program. This program, while recommended for all students of German, is compulsory for those majoring in German. For details, see the German Off-Campus Studies Coordinator in the Department of Modern Languages.

For information on the Combined B.A./B.Ed. Degree in Modern Languages (majors and minors), see the Part in this Calendar which outlines the program requirements for Combined Degrees.

For information on the Combined B.A./B.Mgt. Degree in Modern Languages, see the Part in the Calendar which outlines the program requirements for Combined Degrees.

Students considering Graduate Studies should seek advice from the Department Advisor in Modern Languages.

5. Requirements for the French Major in the Faculty of Arts and Science

Majors must successfully complete **at least** 13 courses in French, which must include:

- A minimum of seven courses at the 3000/4000 level, of which at least two must be at the 4000 level

Linguistics 2300 may replace one of the courses in French

Note: *French 2250 will count toward the maximum number of French courses allowed in the Arts and Science French major but not toward the minimum 13 courses required for this major, except for students in the B.A./B.Ed. program.*

Sample Sequencing Plan for a Major in French (13-course minimum)

Year One

Fall	***Spring***
French 1500[1]	French 2000 French 2300 or 2400

Year Two

Fall	***Spring***
French 2200[2] French 2300 or 2400	One 3000-level French course

Year Three

Fall	***Spring***
One 2000- or 3000-level French course French 3001 One 3000- or 4000-level French course	Option One: One 3000-level French course Option Two: Participation in the French Visiting Student program: French 2250 and at least one French transfer course eligible for credit at the 3000 level at the University of Lethbridge. For complete details on this program, see the French Off-Campus Studies Coordinator in the Department of Modern Languages. **Note:** *Participation in this program is optional for Arts and Science majors.*

Year Four

Fall	***Spring***
One 3000- or 4000-level French course One 4000-level French course	One 4000-level French course

[1]*It is recommended that majors commencing their University studies at the 1000 or 1100 level seek advice on course sequencing from the Department Advisor in Modern Languages.*

[2]*If not offered in Year Two, French 2200 can be taken in Year Three.*

French

Minimum number of French courses required 13
Number of cognate courses required 0

Total number of courses required for the French major 13

(Independent Study - Optional; may be counted in required courses for major)

6. Requirements for the German Major in the Faculty of Arts and Science

Majors must successfully complete a minimum of 13 courses in German, which must include:

A minimum of seven courses at the 3000/4000 level, of which at least two must be at the 4000 level

Linguistics 2300 may replace one of the courses in German

Participation in the Department's German Visiting Student program is compulsory for students majoring in German. For details, see the German Off-Campus Studies Coordinator in the Department of Modern Languages

Note: *German 2250 will count toward the maximum number of German courses allowed in the Arts and Science German major but not toward the minimum 13 courses required for this major, except for students in the B.A./B.Ed. program.*

Sample Sequencing Plan for a Major in German (13-course minimum)

Year One

Fall	***Spring***
German 1500[3]	German 2000 One 2000-level German course

Year Two

Fall	***Spring***
One 3000-level German course One 2000- or 3000-level German course	One 2000-level German course

Year Three

Fall	***Spring***
One 3000-level German course	German 2990 or 3990

Year Four

Fall	***Spring***
Fall and Spring: Participation in the German Visiting Student program (GVSP)[4]	
German 2250 Two German courses eligible for transfer credit at the 3000 level	One German course eligible for transfer credit at the U of L for transfer credit at the the 3000 level Two German courses eligible for transfer credit at the U of L at the 4000 level

[3]*It is recommended that majors commencing their University studies at the 1000 or 1100 level seek advice from the First-Year German Coordinator in the Department of Modern Languages.*

[4]*University regulations stipulate that the last ten courses of a student's program must be completed at the University of Lethbridge. Students participating in a Visiting Student program in the last year of University attendance must obtain a waiver from the Assistant Dean (Curriculum and Advising).*

German

Minimum number of German courses required 13
Number of cognate courses required 0

Total number of courses required for the German major 13

(Independent Study - Optional; may be counted in required courses for major)

7. Requirements for the French/German Major in the Faculty of Arts and Science

Majors must successfully complete a minimum of 15 courses which must include:

A minimum of eight courses in French
A minimum of six courses in German
Linguistics 2300

Five courses must be at the 3000/4000 level

Sample Sequencing Plan for the French/German Major (15-course minimum)

Year One

Fall	***Spring***
French 1500	French 2000
German 1000	German 1100
Linguistics 2300	

Year Two

Fall	***Spring***
French 2300 or 2400	French 2300 or 2400
German 1500	German 2300

Year Three

Fall	***Spring***
French 2200[5]	One 3000-level French course
One 3000-level German course	Independent Study in German[6]

Year Four

Fall	***Spring***
One 3000/4000-level French course	One 4000-level French course

[5] *If not offered in Year Three, French 2200 can be taken in Year Four.*
[6] *Depending on their academic background in German, students may have to take one or more Independent Study course in German in order to complete the major. For further details, see the First-Year German Coordinator in the Department of Modern Languages.*

French/German

Total number of courses required for the French/German major 15

(Independent Study - Optional; may be counted in required courses for major)

t. Music

The Division of Music offers courses within three basic subject areas: Music history and literature, theoretical subjects (traditional composition, conducting, orchestration, etc.) and applied Music instruction (Studio courses and Ensemble Activity courses). Entrance to Studio courses is dependent upon the results of an audition while all other Music courses, in sequence, are freely available to any student.

The Division of Music offers two concentrations leading toward the B.A. or BASc. degree with a Music major. One major requires a concentration in **theory/history** and the other is a **General Major** requiring a more diversified concentration of music theory, history and performance.

The B.A. or BASc. Music major (theory/history) is a degree that focuses on scholarly and written work without requiring the high level of musical performance skills demanded by a B.Mus. degree (it is recommended that the B.A. and BASc. Music major (theory/history) develop a degree of facility on an instrument through Studio courses or Conservatory instruction). The minimum requirement for the B.A. and BASc. degree with a Music major is 15 courses as listed below.

The B.A. or BASc. Music major (General) is a degree that ensures a more diverse musical background including theory, history and performance. The minimum requirement for the B.A. or BASc. Music major (General) is 15 courses as listed below.

Required courses for all Music majors (B.A. and BASc.) include:

Music History/Literature

Music 1021 - Music Foundations*
Music 2321 - History and Literature of Music in Western Civilization I: Baroque and Classic Periods
Music 2421 - History and Literature of Music in Western Civilization II: The Romantic Period

***Students with transfer credit for Music 1000 will have met this requirement.*

Music Theory

Music 2111 - Music Theory I
Music 2211 - Music Theory II
Music 3311 (2311) - Music Theory III
Music 3411 (2411) - Music Theory IV

After completing the core requirements, students then select one of the two following streams and complete the additional courses for that particular stream.

a. Theory/History Stream

Music 3521 - History and Literature of Music in Western Civilization III: Antiquity, Medieval and Renaissance Periods
Music 3611 - Theory and Composition in the 20th Century
Music 3621 - History and Literature of Music in Western Civilization IV: The 20th Century

Five Music options, including one at the 4000 level, excluding Music 1000, 1011 and 1021, and excluding Ensemble Activities other than the University Singers, Vox Musica, the University Wind Ensemble and Accompanying.

b. General Stream

Music 2148 - Music Studio I - (Instrument)
Music 2248 - Music Studio II - (Instrument)
Music 3348 (2348) - Music Studio III - (Instrument)
Music 3448 (2448) - Music Studio IV - (Instrument)
Music 3500 - Conducting I
Music 3721 (2600) - World Music

Four Music Ensemble Activity courses (Each Music Ensemble Activity counts as one-half course).

Note: *Music Ensemble Activity participation is determined by the focus of the Music major and must be fulfilled as follows:*

Major Focus	*Music Ensemble Activity*
Studio wind & percussion	*Wind Orchestra*
Studio voice	*University Singers or Vox Musica*
Studio pianists	*A minimum of two semesters of: Accompanying, and one of: University Singers, Vox Musica, Wind Orchestra*
Studio string	*Any of: Accompanying, University Singers, Vox Musica, Wind Orchestra (or through Independent Study by permission of the Division of Music)*

No more than two Music Ensemble Activities may be counted toward the Ensemble participation requirement in a given semester.

Note: *The B.A. (Music major) degree allows for up to 20 courses in Music. Any Ensemble Activity course is acceptable as an elective beyond the 15-course minimum requirement as listed above. B.A. Music majors may count a maximum of eight Ensemble Activity courses toward their degree.*

B.A. or BASc. with a Music major candidates should note that courses in the subject area of theory are sequential in nature and are currently offered only once per calendar year. Normally, prospective candidates are advised to begin their theory studies (Music 2111) in their first Fall semester at University.

Ensemble Activities include the Vox Musica and University Singers Choral Ensembles, the University Wind Ensemble, University Chamber Ensembles (Brass, Percussion, etc.), Jazz Ensemble and Collegium Musicum. Ensemble Activity courses carry a 1.5 credit hour weight (one-half course credit) and are graded on a pass/fail basis only. Ensemble Activity courses may be taken for credit by any student. Arts and Science degree students, who are not Music majors, may credit a maximum of four Ensemble Activity courses toward their degree.

Although courses in Music are offered by the School of Fine Arts, Music courses count as Arts and Science courses in the programs of students enrolled in the Faculty of Arts and Science.

Music (theory/history)

Minimum number of Music courses required 15
Number of cognate courses required 0

Total number of courses required for the Music major 15

(Independent Study - Optional; may not be counted in required courses for major)

Music (General)

Minimum number of Music courses required 13
Number of Ensemble Activity courses required (one-half credit hour courses) 4
Number of cognate courses required 0

Total number of courses required for the Music major 15

(Independent Study - Optional; may not be counted in required courses for major)

u. Native American Studies

The Department of Native American Studies is a multidisciplinary department that offers courses from a Native perspective in Native history, art, law, politics, language and literature. It concerns itself with the Native peoples of North America, their cultures and the varied relationships that have developed between Natives and non-Natives from the 15th Century to the present day.

The major in Native American Studies requires at least 13 courses, including three at the 3000 level and one at the 4000 level.

Required courses include:

Blackfoot and Cree Languages

One course in either language

Art and Literature

One of: Native American Studies 2300 - Native American Indian Art History and Theory
Native American Studies 2350 - Native American Indian Art Studio
Native American Studies 2600 - Native American Literature

Culture and History

One of: Native American Studies 2000 - Native American Philosophy
Native American Studies 2500 - Canadian Indian History
Native American Studies 2550 - U.S. Indian History

Law and Politics

One of: Native American Studies 2100 - Aboriginal Peoples and Law
Native American Studies 2150 - Native Rights in the United States
Native American Studies 2800 - Native American Politics

Contemporary Issues

One of: Native American Studies 2400 - Traditional Aboriginal Political Economy
Native American Studies 2700 - Native American Women
Native American Studies 3700 - Native American Health

Native American Studies 1000 is a prerequisite for all Native American Studies courses unless otherwise specified. This excludes languages.

In addition to the above requirements, it is recommended that Native American Studies majors take one of the following courses:

Archaeology 1000 - Introduction to Archaeology
Economics 1001 - Introduction to Economics
Philosophy 1000 - Introduction to Philosophy
Political Science 1000 - Introduction to Political Studies

Native American Studies

Minimum number of Native American Studies courses required 13
Number of cognate courses required 0

Total number of courses required for the Native American Studies major 13

(Independent Study - Optional; may be counted in required courses for major)

v. Neuroscience

The University of Lethbridge offers instruction leading to a Bachelor of Science with a multidisciplinary major in Neuroscience. The program provides background for a diverse range of post-graduate activities such as graduate studies and professional programs in the life sciences. It consists mainly of courses offered by the Department of Psychology, but also draws on both science and arts courses from across the Faculty of Arts and Science (students may also wish to consider either a B.A. or B.Sc. with a major in Psychology – see the Psychology major later in this section).

Required courses include:

Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 1020* - Diversity of Life
Biology 2000 - Principles of Genetics

Two of: Biology 3000 - Molecular Genetics
Biology 3110 - Cell Regulation
Biology 3120 - Developmental Biology

Philosophy 2220 - Philosophy of Mind
Physics 1050 - Introduction to Biophysics
Psychology 2320 - Cognitive Psychology
Psychology 2600 - Brain and Behaviour
Psychology 2700 - Introduction to Animal Behaviour
Psychology 3600 - Introduction to Neuroscience
Psychology 4600 - Research in Behavioural Neuroscience

Any three courses in the Department of Psychology at the 3000 or 4000 level with a Science designation (see **Part 5, Section 16 - Divisional Course Designation, pp. 78-79**)

One of: English 1900 - The World of Words
History 1000 - Western Civilization
Philosophy 1000 - Introduction to Philosophy
Religious Studies 1000 - Introduction to World Religions

One of the following groups:

Chemistry 2100 - Elements of Organic Chemistry I
Chemistry 2200 - Elements of Organic Chemistry II
One additional course from Biology or Chemistry, or a Psychology course at the 3000 or 4000 level with a Science Designation (See **Part 5, Section 13 - Divisional Course Designation**)

OR

Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Chemistry 2500 - Organic Chemistry I
Chemistry 2600 - Organic Chemistry II

One of: Psychology 3010 (2400) - Introduction to Statistics in Psychological Research
Statistics 1770 - Introduction to Probability and Statistics

** Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

Recommended courses include:

Biology 4110 - Advances in Genetics, Molecular and Cellular Biology
Chemistry 2000 - Chemical Equilibrium and Electrochemistry
Computer Science 1000 - Introduction to Computer Science
Drama 2350 - Speech Communication
Logic 1000 - Introduction to Logic
Management 3020 - Marketing
Philosophy 2232 - Philosophy and the World View of Science: Earth and Life Sciences
Psychology 3320* - Advanced Cognition
Psychology 3730 (3630) - Sex and Human Ethology
Zoology 3300 - Sociobiology
Zoology 3700 - Animal Physiology I
Zoology 3710 - Animal Physiology II

***Courses marked with an asterisk may have prerequisites that are not part of the major.*

It is strongly recommended that students who are planning to pursue graduate studies in the neurosciences include the following courses in their program:

Psychology 3605 - Research Methods in Neuroscience
Psychology 4010 - Advanced Research Design and Data Analysis

Note: *Students wishing to major in Neuroscience who already have credit for Physics 1000 may have the requirement for Physics 1050 waived and should consult with the Coordinator of the program.*

Neuroscience

Total number of courses required for the Neuroscience major 20

(Independent Study - Optional; may be counted in required courses for major)

w. Philosophy

The Department of Philosophy offers courses in both Logic and Philosophy with a major in Philosophy only. Logic courses count toward a major in Philosophy.

Philosophy 1000 introduces very generally the scope and methods of Philosophy. The prerequisite for other Philosophy courses is either Logic 1000, Philosophy 1000 or completion of seven courses (21.0 credit hours) in Arts and Science. Courses at the 2000 level are mostly introductions to some main areas of Philosophy. Courses at the 3000 level are either introductions to a historical period of Philosophy, introductions to a special topic or sequels to 2000-level courses. Courses at the 4000 level are specialized studies which ordinarily require a background in Philosophy.

In addition to regular Calendar offerings, further courses are available as part of the Philosophy 2000 Series (Studies in Philosophy), the Philosophy 3000 Series (Studies in Philosophy) and the Philosophy 4000 Series (Studies in Philosophy). These courses reflect student interest and faculty availability. For a description of the many courses currently available in these three series, please contact the Department Office and/or check each semester Timetable.

The major in Philosophy requires at least 13 courses, including one course listed under each of the five following headings:

Logic

One of: Logic 2001 - Inductive Logic
Logic 2002 - Deductive Logic
Logic 3001 - Deviant Logic
Logic 4001 - Mathematical Logic

History of Philosophy

One of: Philosophy 2060 - Existentialism and Phenomenology
Philosophy 2010 - Ancient Philosophy
Philosophy 2030 - Philosophy in the 17th and 18th Centuries: Empiricism and Continental Rationalism
Philosophy 3340 - 19th-Century Philosophy
Philosophy 3350 - Analytic Philosophy in the 20th Century

Philosophy of Values

One of: Philosophy 2111 - Introduction to Value Theory
Philosophy 2120 - Contemporary Moral Problems
Philosophy 2150 - Aesthetics
Philosophy 3401 - Social and Political Philosophy
Philosophy 3402 - Biomedical Ethics
Philosophy 3403 - Philosophy of Love and Sex
Philosophy 3404 - Philosophy of Law
Philosophy 3405 - Philosophy of Feminism
Philosophy 3406 - Business Ethics
Philosophy 3407 - Social Justice and Property
Philosophy 3408 - Feminist Moral Theory
Philosophy 4500 - Great Works in Ethics (Series)

Philosophy of Reality

One of: Philosophy 2210 - Philosophy of Religion
Philosophy 2220 - Philosophy of Mind
Philosophy 2231 - Philosophy and the World View of Science: Space, Time and Matter
Philosophy 2232 - Philosophy and the World View of Science: Earth and Life Sciences
Philosophy 3260 - Metaphysics
Philosophy 3270 - Theory of Knowledge
Philosophy 3280 - Philosophy of Language

Philosophy 4000 Level

One of: Special Topics or Independent Study at the 4000 level

Students should take courses from as many instructors as possible, since the views of instructors on any given topic may vary significantly. Those intending to go on to graduate or professional schools should get more specific advice, particularly about Independent Study.

Philosophy

Minimum number of Philosophy courses required 13
Number of cognate courses required 0

Total number of courses required for the Philosophy major 13

(Independent Study - Optional; may be counted in required courses for major)

x. Physical Education

The Department of Physical Education offers theory and Physical Activity courses.

A major in Physical Education may emphasize either the natural science, the social science or the humanities aspect of the study of physical activity involvement. The importance of an interdisciplinary approach is stressed throughout the program.

Program requirements for a major in Physical Education are as follows:

Required courses include:

Ten theory courses

Physical Education 1000 - Wellness and Physical Activity
Physical Education 2000 - Foundations of Motor Skill Acquisition
Physical Education 2110 - Biological and Physical Science Dimensions of Physical Activity Involvement
Physical Education 2120 - Sociological and Psychological Dimensions of Physical Activity Involvement
Physical Education 2130 - Humanities Dimensions of Physical Activity Involvement
Physical Education 2200 - Research Methodologies in Physical Activity Involvement
Physical Education 4900 - Seminar

Three more Physical Education courses, two of which must be at or above the 3000 level

Six Physical Activity courses, including at least one from each of the following three groups and two of the six at the 3000 level or higher:

Group A

Physical Activity 1605 - Curling
Physical Activity 1615 - Court Games
Physical Activity 1625 - Golf
Physical Activity 1635 - Tennis
Physical Activity 1655 - Ice Skating
Physical Activity 1665 - Archery
Physical Activity 1675 - Bowling
Physical Activity 1685 - Badminton
Physical Activity 2005 - Swimming I
Physical Activity 2155 - Track and Field I
Physical Activity 2705 - Outdoor Education: Summer Activities
Physical Activity 2715 - Outdoor Education: Winter Activities
Physical Activity 3005 - Swimming II
Physical Activity 3155 - Track and Field II
Physical Activity 4005 - Swimming III

Group B

Physical Activity 1125 - Rhythmic Gymnastics
Physical Activity 1205 - Folk and Square Dance
Physical Activity 1215 - Social and Round Dance
Physical Activity 1695 - Fencing
Physical Activity 2125 - Artistic Gymnastics
Physical Activity 2225 - Children's Dance
Physical Activity 2235 - Creative Dance
Physical Activity 2405 - Wrestling I
Physical Activity 2425 (1415) - Judo I
Physical Activity 2445 (1645) - Weight Training I
Physical Activity 3105 - Men's Artistic Gymnastics
Physical Activity 3115 - Women's Artistic Gymnastics
Physical Activity 3405 - Wrestling II
Physical Activity 3425 (2415) - Judo II
Physical Activity 3445 (2645) - Weight Training II

Group C

Physical Activity 2505 - Basketball I
Physical Activity 2515 - Football I
Physical Activity 2525 - Ice Hockey I
Physical Activity 2535 - Soccer I
Physical Activity 2545 - Volleyball I
Physical Activity 3505 - Basketball II
Physical Activity 3515 - Football II
Physical Activity 3525 - Ice Hockey II
Physical Activity 3535 - Soccer II
Physical Activity 3545 - Volleyball II

Each Physical Activity course counts as one-half course. Physical Activity courses may be taken for credit by all students at the University. Physical Education majors may earn credit for a maximum of 16 Physical Activity courses. Multidisciplinary Recreation and Leisure Studies majors may earn credit for a maximum of 10 Physical Activity courses.

Physical Education

Minimum number of Physical Education courses required 10
Minimum number of Physical Activity courses required (one-half credit hour courses) 6
Number of cognate courses required 0

Total number of courses required for the Physical Education major 13

(Independent Study - Optional; may be counted in required courses for major)

y. Physics

The Department of Physics offers courses in Astronomy, Engineering and Physics.

Physics majors must have included either Physics 1000 or 1050 in their program; credit will not be given for both. Students are advised that Physics 1000 is the preferred first course in Physics for majors, but students may enter the major through Physics 1050 providing they have acquired the necessary mathematical background to complete successfully Physics 2000.

Required courses include:

One of: Physics 1000 - Introduction to Physics I
Physics 1050 - Introduction to Biophysics

Physics 2000 - Introduction to Physics II
Physics 2150 - Wave Mechanics
Physics 2600 - Electricity and Magnetism
Physics 2800 - Methods in Mathematical Physics
Physics 2900 - Experiments in Physics
Physics 3150 - Quantum Mechanics I
Physics 3200 - Mechanics

Physics 3400 - Thermal and Statistical Physics
Physics 3600 - The Electromagnetical Interaction
Physics 3800 - Methods of Theoretical Physics

Two courses from the following list (with at least one at the 4000 level):

Physics 3300 - Structure of Matter
Physics 3650 - Electromagnetic Radiation
Physics 3900 - Intermediate Experimental Physics
Physics 4000 - Advanced Studies in Physics
Physics 4100 - Nuclear Physics
Physics 4150 - Quantum Mechanics II
Physics 4200 - Advanced Mechanics

Required cognates:

Mathematics 1560 - Calculus I
Mathematics 2560 - Calculus II
Mathematics 2570 - Calculus III
Mathematics 2580 - Calculus IV

The following courses offered by the Physics Department require no special background in Mathematics or Physics and are therefore recommended especially for non-science students: Astronomy 2020, Astronomy 2070 and Physics 2020.

It is recommended that students majoring in Physics include courses in Biology, Chemistry, Computer Science and Mathematics. Since a number of courses are offered only on alternate years, students are advised to plan carefully to include the desired courses. In all cases, students (especially those planning for advanced studies in Physics) are encouraged to seek advice on their programs from any member of the Department of Physics.

Students interested in the combined Bachelor of Science/Bachelor of Education (B.Sc./B.Ed.) or Bachelor of Science/Bachelor of Management (B.Sc./B.Mgt.) should refer to **Part 11 - Combined Degrees, Sections 3 and 8 respectively**, for the appropriate Physics major.

Physics

Minimum number of Physics courses required 13
Number of cognate courses required 4

Total number of courses required for the Physics major 17

(Independent Study - Optional; may not be counted in required courses for major)

z. Political Science

The Department of Political Science offers studies in international relations, Canadian government and politics, comparative politics, public administration, political theory and political behaviour.

The major in Political Science requires 13 courses as follows:

Required courses include:

At least four courses at the 2000 level in four different subfields

At least six courses at the 3000 level, drawn from at least three of the following subfields:

International Relations
Political Science 3120 - Canadian Foreign Policy
Political Science 3150 - International Politics and Foreign Policy
Political Science 3160 - International Law and Organization

Canadian Government
Political Science 3120 - Canadian Foreign Policy
Political Science 3210 - Urban Government and Politics
Political Science 3230 - Provincial Government and Politics
Political Science 3241 (3240) - Canadian Constitutional Law 1: The Structures and Powers
Political Science 3242 (3240) - Canadian Constitutional Law 11: The Charter
Political Science 3250 - Alberta Politics and Government
Political Science 3260 - Canadian Public Policy

Comparative Politics
Political Science 3320 - Western European Political Systems
Political Science 3330 - Russia and Environs
Political Science 3340 - American Government
Political Science 3350 - Government and Politics of South Asia
Political Science 3360 - Developing Nations
Political Science 3370 - African Politics
Political Science 3430 - Comparative Public Administration

Public Administration
Political Science 3410/Management 3030 - Organizational Behaviour, Theory and Design
Political Science 3420/Management 3050 - Human Resource Management
Political Science 3430 - Comparative Public Administration

Political Theory
Political Science 3510 - History of Political Thought
Political Science 3520 - Socialism and Communism

Political Behaviour

Political Science 3710 - Public Opinion and Propaganda

Political Science 3730 - Mass Media and Politics

At the discretion of the Department, Special Topics (3850) and Independent Study (3990) credit may also be taken as satisfying subfield requirements.

At least one course at the 4000 level

Unless otherwise specified, Political Science 1000 is a prerequisite for all other Political Science courses. Political Science 2610 is highly recommended for Political Science majors. Students are reminded that admission to 3000-level courses often requires previous completion of an appropriate 2000-level course.

Political Science

Minimum number of Political Science courses required 13
Number of cognate courses required 0

Total number of courses required for the Political Science major 13

(Independent Study - Optional; may be counted in required courses for major)

aa. Psychology

The fundamental goal of psychology is to understand the causes of human behaviour. The Department of Psychology at the University of Lethbridge emphasizes four major experimental approaches to this goal - Neuroscience, Cognitive Psychology, Comparative Psychology and Social/Community Psychology.

A student majoring in Psychology is expected to have a good general grounding in experimental psychology which is met by the requirement for the four main second-year courses: Psychology 2320, 2600, 2700 and 2800. A Psychology major is also expected to have a knowledge of the methodological techniques necessary to evaluate psychological research, met by the Psychology 3010 requirement. The 4000-level course requirement provides experience in carrying out psychological research as well as indepth study in a particular area of Psychology. Apart from that, students are free to explore areas of Psychology that pique their interest.

Requirements for a major in Psychology are:

Psychology 2320 - Cognitive Psychology
Psychology 2600 - Brain and Behaviour
Psychology 2700 - Introduction to Animal Behaviour
Psychology 2800 - Social Psychology
Psychology 3010 (2400) - Introduction to Statistics in Psychological Research
One 4000-level Psychology course
At least seven other Psychology courses

Note: *The selection among the seven additional courses is limited by the prerequisites of the required courses as follows:*

- *If Psychology 4320 is taken, the following courses are required:*
  Psychology 2010
  One of Psychology 3200, 3320, 3330 or 3340
- *If Psychology 4600 is taken, the following course is required:*
  Psychology 3600 or 3605
- *If Psychology 4700 is taken, the following course is required:*
  Psychology 3700
- *If Psychology 4800 is taken, the following courses are required:*
  Psychology 2010 and 3800

Although Psychology 1000 is normally the first Psychology course taken, it is not required if the first Psychology course taken is either Psychology 2600 or 2700. Students who wish to pursue graduate studies in Psychology should take Psychology 4010 (3400). Students who wish to pursue graduate studies in neuroscience should take Psychology 3605 and may wish to consider a major in Neuroscience (see the Neuroscience major earlier in this section).

Psychology

Minimum number of Psychology courses required 13
Number of cognate courses required 0

Total number of courses required for the Psychology major 13

(Independent Study - Optional; may be counted in required courses for major)

bb. Recreation and Leisure Studies

The multidisciplinary major in Recreation and Leisure Studies is concerned with how a variety of disciplinary perspectives relate to the phenomenon of leisure in all of its complexity. Since leisure as a state of mind comes about as a function of the myriad conditions of one's life, its investigation requires as complete a picture of the overall quality of life as possible. The approaches and techniques developed by the disciplines of Economics, Geography, Physical Education, Political Science, Psychology and Sociology are central to the study of leisure. Other disciplines such as Art, Drama and Music, as well as Physical Activities, relate primarily to the practice of recreation. Although the focus of the program is the intellectual study of leisure, including recreation, the program requires that students pursue alternative learning strategies entailed in Independent and Applied Studies. Details are available from the Coordinator of Recreation and Leisure Studies.

The Recreation and Leisure Studies major requires 20 courses, some of which are required core courses, some are options and at least one is an Independent Study.

I. Required core:

A minimum of eight courses and a maximum of 12 courses from the following list:

Physical Education 2810 - Recreation in the Leisure Age
Physical Education 3810 - Community Recreation
Physical Education 4630 - Physical Education and Recreation for Special Populations
Recreation 3980 - Applied Studies Field Work Experience
Recreation 3981 - Applied Studies Employment Evaluation

Two of:
Physical Education 2640 - History of Physical Education, Sport and Recreation
Physical Education 3640 - Culture and Physical Activity
Sociology 3710 - Sociology of Leisure

One of:
Geography 2535 - Introduction to Planning
Political Science 2610 - Introductory Research Methods
Psychology 2010 - Research Methodology
Sociology 2100 - Research Methodology

Selected Topics courses: Since these courses are offered on an irregular basis, they can be approved only on an individual basis.

II. Options:

A minimum of seven and a maximum of 11 courses from the following; at least six at the 3000/4000 level. No more than six may be from one discipline. Students may select between groupings or within one of the suggested streams.

Courses marked with an asterisk (*) are from Faculties other than Arts and Science. Maximum credit toward an Arts/Science degree is four * courses. Courses cross-listed between the Faculty of Arts and Science and other Faculties do not count towards the limit outside Arts and Science.

Environment Stream

Anthropology 3280 - Urban Anthropology
Biology 2050 - Biology and Human Affairs
Economics 3210 - Natural Resource Economics
Economics 3220 - Environmental Economics
Economics 3500 - Regional Economics
Geography 2060 - Environmental Systems
Geography 2200 - Introduction to Human Geography
Geography 3230 - Urban Geography
Geography 3235 - Quantitative Models for Urban and Regional Analysis
Physical Activity 2705 - Outdoor Education: Summer Activities
Physical Activity 2715 - Outdoor Education: Winter Activities
Psychology 3810 - Environmental Psychology

Populations Stream

Education 4783* - Culturally Different Students
Political Science 4310 - The Politics of Human Rights
Psychology 2800 - Social Psychology
Psychology 3500 - Abnormal Psychology
Psychology 3900 - Community Psychology
Sociology 2020 - Social Problems
Sociology 2500 - Deviance, Conformity and Social Control
Sociology 3050 - Minority Group Relations
Sociology 3370 - Sociology of Aging
Sociology 3510 - Crime and Delinquency

Facilitation/Process Stream

Anthropology 3300 - Economic Anthropology
Economics 3600 - Labour Economics
Physical Education 4620 - Leadership and Management of Physical Education, Sport and Recreation
Political Science 2210 - Canadian Politics and Government
Political Science 2410 - Public Administration
Political Science 3210 - Urban Government and Politics
Political Science 3410/Management 3030 - Organizational Behaviour, Theory and Design
Political Science 3710 - Public Opinion and Propaganda
Political Science 3730 - Mass Media and Politics
Sociology 3380 - Sociology of the Arts
Sociology 3390 - Sociology of Mass Communication

III. Independent Study:

Each student must complete one Independent Study course in Recreation and Leisure Studies at the 3000 or 4000 level. This course should involve more than one discipline. A maximum of five Independent Study courses may count for major credit. Occasionally, the Independent Study requirement may be satisfied with a disciplinary designated

Independent Study (e.g., Sociology 3990 or Economics 3990), but these courses must use the disciplinary paradigm to relate the study of leisure within that discipline and at least one other discipline. The program Coordinator will advise.

Recreation and Leisure Studies

(Independent Study - Required in major)

Total number of courses required for the Recreation and Leisure Studies major . . 20

cc. Religious Studies

Religious Studies aims to enhance critical understanding of the phenomenon of religion and the diversity of religious experience from antiquity to the present in both Eastern and Western traditions. Fundamental issues such as belief, canon, worship, concepts of the divine, immortality and the historical development of particular religions will be examined. The academic study of religion requires a measure of neutrality and distance, whereby all religious traditions are treated with similar respect and critical inquiry.

Religious Studies 1000 is a general introduction to the beliefs, practices and history of major religious traditions of the world. Other courses are offered in Eastern and Western religious traditions, as well as in areas of society and religion, methodological issues and selected religious texts and issues. A major in Religious Studies requires that the students have a broad-based understanding of the diverse religious world, and students are required to take courses in both Eastern and Western religions, as well as in more general themes and issues. Faculty for Religious Studies courses are found in a number of departments in Arts and Science

A major in Religious Studies requires a minimum of ten courses, to be selected from the following list, as specified:

Religious Studies 1000 - Introduction to World Religions

At least three of the following 2000-level courses, with at least one from the Eastern Religions section and one from the Western Religions section:

Eastern Religions

Religious Studies 2100 - The Hindu Tradition
Religious Studies 2110 - Asian Philosophy
Religious Studies 2200 - The Buddhist Tradition
Religious Studies 2300 - East Asian Religions

Western Religions

Religious Studies 2020 - Ancient Religions and Mythology
Religious Studies 2500 - Christianity
Religious Studies 2600 - Islam

At least three of:

Religious Studies 3000 - Studies in Religious Traditions (Series)
Religious Studies 3010 - Religion and Society
Religious Studies 3020 - Women and World Religions
Religious Studies 3100 - Studies in Indian Religion (Series)
Religious Studies 3300 - Studies in East Asian Religions (Series)
Religious Studies 3510 - The Early Church
Religious Studies 3550 - Religion in North America
Religious Studies 3560 - Mormon Society and Culture
Religious Studies 4000 - Seminar in Religious Studies (Series)
Anthropology 3500 - Ritual
Archaeology 3170 - Syro-Palestinian Archaeology
Archaeology 3171 - Ancient Israel
Archaeology 4170 - Ancient Near Eastern World
History 3402 - The Reformation
History 4009 - Seminars in Ancient History (Series) (New Religions in the Ancient Mediterranean World)
Native American Studies 2000 - Native American Philosophy
Native American Studies 3000 - Native American Philosophy (Advanced)
Philosophy 2010 - Ancient Philosophy
Philosophy 2120 - Contemporary Moral Problems
Philosophy 3260 - Metaphysics

Religious Studies 4001 - Concepts and Methods in the Study of Religion

One Independent Study course in Religious Studies at the 3000 or 4000 level

At least one of:

Anthropology 3550 - Anthropology of Religion
Sociology 3330 - Sociology of Religion
Philosophy 2210 - Philosophy of Religion

Note: *From time to time, topics courses in some departments will address the subject of religion. These will be considered for credit toward a Religious Studies major on an individual basis when requested by the student.*

Religious Studies

Minimum number of Religious Studies courses required 9
Number of cognate courses required 1

(Independent Study - Required in major)

Total number of courses required for the Religious Studies major 10

dd. Sociology

Sociology provides the conceptual and methodological tools with which to understand society. Its primary goal is to stimulate sociological thinking, which involves the application of imagination and critical analysis to the many facets of social life. Ideally, this encourages not only the development of analytical insight, but also the application of sociology to social problems and issues.

The Department of Sociology provides instruction for both the liberal arts student and the student planning advanced studies or a career related to Sociology. A wide range of courses is offered in sociological theory, methods and topics reflecting a variety of contemporary social issues.

Unless otherwise stated, Sociology 1000 or equivalent is a prerequisite for all other courses in Sociology.

The major in Sociology requires a minimum of 13 courses in Sociology as follows:

Required courses include:

Sociology 1000 - Basic Concepts in Sociology
Sociology 2100 - Research Methodology
Sociology 2200 - Classical Sociological Theory
Sociology 2210 - Contemporary Sociological Theory

One of: Sociology 3110 - Survey Research
Sociology 3120 - Qualitative Research Methods

At least eight additional courses in Sociology, four of which must be at or above the 3000 level and two of which must be 4000-level seminars

It is recommended that Sociology 2100 and 2200 be taken during the second year of study.

Recommended courses for students interested in graduate studies:

Sociology 2130 - Social Statistics (or any other Statistics course)
Sociology 3110 - Survey Research
Sociology 3120 - Qualitative Research Methods
Sociology 4200 - Seminar in Classical Sociological Theory
Sociology 4210 - Seminar in Contemporary Sociological Theory

Students intending to major in Sociology or others contemplating some measure of concentration in the discipline, should plan their programs in consultation with the Departmental Advisor.

Sociology

Minimum number of Sociology courses required 13
Number of cognate courses required 0

Total number of courses required for the Sociology major 13

(Independent Study - Optional; may be counted in required courses for major)

ee. Special Studies

Special Studies includes those programs and courses that are outside Department offerings and that might be best described as alternatives to regular classroom learning. A number of different programs are offered through Special Studies.

Applied Studies

Applied Studies is a learning option in which students earn academic credit for learning gained though employment or volunteer experience. During the field placement, students explore their interests and aptitudes in a particular career and test, reinforce and make relevant the theories and principles learned in the classroom.

To be eligible for Applied Studies, students must have second-year status and have a work or volunteer placement related to their academic program. Credit is earned in Applied Studies 2000/2001 for learning achieved in an employment or volunteer experience as documented in a Work Report and other written assignments. Additional credit in Applied Studies 2010/2011 may be earned by completion of a project exploring a job-related issue within a specific academic context.

Disciplinary credit involves submission of a Learning Plan which outlines learning objectives related to the work experience. Evaluation of documentation indicating those objectives which have been realized takes place at the end of the employment experience.

Students may use two different placements to earn a maximum of four courses in Applied Studies and credit for a further six courses may be awarded within specific disciplines. Disciplinary credit is signified by the series numbers 2980-85, 3980-85, 4980-85.

Students may register in Applied Studies at any time during the calendar year. Registration need not coincide with the beginning of a regular semester.

Special Studies also coordinates the Applied Studies program for the Faculty of Education and the Faculty of Management.

Interdisciplinary Studies

The focus of Interdisciplinary Studies is on the unity of knowledge rather than on its separate parts. To this end, Interdisciplinary Studies is concerned with how a variety of disciplinary perspectives can be brought to bear on a single subject and with how these perspectives are at once similar and different.

Each Interdisciplinary Studies course has a Coordinator, who is responsible for all aspects of the course, although the teaching of the course includes several instructors along with the Coordinator. Student concerns about individual courses should be directed to the appropriate Coordinator.

Individual Multidisciplinary Majors

For information see **Section 13** of this Part.

Student-Initiated Courses

Special Studies is a useful mechanism for students to initiate courses on unusual topics not ordinarily included in the regular curriculum. Students who wish to initiate courses should consult the Assistant Dean (Curriculum and Advising).

ff. Urban and Regional Studies

The Urban and Regional Studies program provides a theoretical grounding in a variety of disciplines; experience in the collection, processing and analysis of empirical data; and a knowledge of urban and regional policy issues. Some graduates enter directly into careers related to their academic background, while others pursue advanced degrees in professional fields such as planning or architecture.

The multidisciplinary major in Urban and Regional Studies is housed in the Department of Geography, but draws upon a wide range of disciplines in the social sciences, natural sciences, management and fine arts. The program has two components: (1) core courses and (2) subfields representing eight areas of concentration. Students take 10 courses from the core list and 10 from the subfields list, for a total of 20 courses.

Students are encouraged to combine subfield courses as follows:

Urban Planning and Administration - Urban Studies + Administration and Policy + Economic and Social Analysis

Pre-Architecture - Design and Aesthetics + Site Analysis + Urban Studies

Recreation - Recreation Studies + Environmental Systems + Site Analysis

Spatial Analysis - Site Analysis + Quantitative Methods

Environment - Environmental Systems + Administration and Policy + Site Analysis

Economic and Social Development - Economic and Social Analysis + Quantitative Methods + Urban Studies

Other groupings are possible and should be discussed with one of the program coordinators. This allows students the flexibility to create their own area of specialization within the program.

Required core courses include:

Introductory Courses

Three of: Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Economics 1001 - Introduction to Economics
Geography 1000 - Introduction to Physical Geography
Political Science 1000 - Introduction to Political Studies
Sociology 1000 - Basic Concepts in Sociology

Urban Studies

One of: Anthropology 3280 - Urban Anthropology
Geography 3230 - Urban Geography
Political Science 3210 - Urban Government and Politics
Sociology 3410 - Community and Urbanization

Administration and Policy

One of: Economics 3750 - Economics of Public Spending
Management 2000* - Introduction to Management
Political Science 2410 - Public Administration

Planning

Two of: Economics 3500 - Regional Economics
Geography 2535 - Introduction to Planning
Geography 3235 - Quantitative Models for Urban and Regional Analysis
Geography 4500 - Contemporary Issues and Problems in Planning Series

Research Methods

One of: Geography 2700 - Geographical Data and Analysis
Sociology 2100 - Research Methodology

AND

One of: Geography 3730 - Spatial Statistics
Sociology 2130 - Social Statistics
Statistics 1770 - Introduction to Probability and Statistics

Independent Study

One 4000-level Independent Study which takes a multidisciplinary approach to a research problem in Urban and Regional Studies.

Required subfield courses:

The remaining ten courses should include at least two of the eight subfields below, at least two disciplines and at least six courses at the 3000/4000 level.

1. Economic and Social Analysis

Anthropology 2100 - Contemporary Canadian Communities
Economics 1001 - Introduction to Economics
Economics 2000 - Principles of Macroeconomics
Economics 2001 - Principles of Microeconomics
Economics 3000 - Intermediate Macroeconomic Theory
Economics 3001 - Intermediate Microeconomic Theory
Economics 3080/Management 3780 - Principles of Industrial Organization
Economics 3500 - Regional Economics
Geography 2200 - Introduction to Human Geography
Geography 2210 - Urban and Economic Geography
Geography 3225 - Economic Geography
Geography 4220 - Advanced Series in Economic Geography
Geography 4500 - Contemporary Issues and Problems in Planning Series
Philosophy 3401 - Social and Political Philosophy
Psychology 3810 - Environmental Psychology
Sociology 1000 - Basic Concepts in Sociology
Sociology 2010 - Canadian Society
Sociology 2020 - Social Problems
Sociology 2440 - Industrialization and Society
Sociology 3050 - Minority Group Relations

Note: *Credit will not be allowed for Geography 3225 and Geography 3210 or 3250.*

2. Urban Studies

Anthropology 3280 - Urban Anthropology
Geography 2535 - Introduction to Planning
Geography 3230 - Urban Geography
Geography 4240 -Series in Advanced Urban Geography
Geography 4500 - Contemporary Issues and Problems in Planning Series
History 3704 - Lethbridge History: Investigation in Local History
Management 3807* - Municipal Governance and Planning
Political Science 3210 - Urban Government and Politics
Sociology 3410 - Community and Urbanization

3. Administration and Policy

Economics 3750 - Economics of Public Spending
Economics 4750 - Economic Analysis of the Public Sector
Management 2000* - Introduction to Management
Management 2060* - Introduction to Information Technology
Management 2100* - Introductory Accounting
Management 3804* - Government and Business Interaction
Political Science 1000 - Introduction to Political Studies
Political Science 2210 - Canadian Politics and Government
Political Science 2410 - Public Administration
Political Science 3230 - Provincial Government and Politics
Political Science 3260 - Canadian Public Policy
Political Science 3410/Management 3030 - Organizational Behaviour, Theory and Design
Political Science 3420/Management 3050 - Human Resource Management

4. Site Analysis

Engineering 2000 - Engineering Statics
Engineering 2060 - Engineering Mechanics
Geography 2030 - Geomorphology
Geography 2710 - Map Interpretation
Geography 3070 (4070) - Natural Hazards
Geography 3700 (2720) - Cartography
Geography 3710 (2730) - Field Techniques in the Earth Sciences
Geography 3720 (2740) - Introduction to Remote Sensing
Geography 3740 - Geographic Information Systems
Geography 4050 - Soils
Geography 4740 - Applied Geographic Information Systems
Geography 4770 - Irrigation Science
Geology 2060 - Physical Geology
Mathematics 1410 (1450) - Elementary Linear Algebra
Mathematics 1560 - Calculus I

5. Quantitative Methods

Computer Science 1000 - Introduction to Computer Science
Economics 2070/Management 2070 (4070) - Decision Analysis
Economics 2900 - Quantitative Methods in Economics
Economics 4020 - Econometrics
Geography 2700 - Geographical Data and Analysis
Geography 3235 - Quantitative Models for Urban and Regional Analysis
Geography 3730 - Spatial Statistics
Psychology 2010 - Research Methodology
Psychology 3010 (2400) - Introduction to Statistics in Psychological Research
Psychology 4010 (3400) - Advanced Research Design and Data Analysis
Sociology 2100 - Research Methodology
Sociology 2130 - Social Statistics
Statistics 1770 - Introduction to Probability and Statistics
Statistics 2780 - Statistical Inference

6. Environmental Systems

Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 1020** - Diversity of Life
Biology 2050 - Biology and Human Affairs
Biology 2200 - Principles of Ecology
Botany 2150 - Field Botany
Botany 3400 - Plant Ecology

Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Chemistry 2000 - Chemical Equilibrium and Electrochemistry
Chemistry 2100 - Elements of Organic Chemistry I
Chemistry 2200 - Elements of Organic Chemistry II
Chemistry 2410 - Introduction to Analytical Chemistry
Economics 3210 - Natural Resource Economics
Economics 3220 - Environmental Economics
Geography 1000 - Introduction to Physical Geography
Geography 2015 - Weather and Climate
Geography 2060 - Environmental Systems
Geography 4012 (3012) - Hydrometeorology
Geography 4500 - Contemporary Issues and Problems in Planning Series
Zoology 2150 - Field Zoology
Zoology 3600 - Animal Ecology

***Students who have taken both Botany 2000 and Zoology 2000 prior to 1996/1997 will have met this requirement.*

7. Design and Aesthetics

Art 2030** - Visual Foundations OR
Art 2315 - Fundamentals of Drawing, and
Art 2316 - Fundamentals of Art Making, and
An approved portfolio
Art 3004** - Photo-Arts
Art 3008** - Sculpture
Art 3010 (3150) - Drawing
Art 3011 - Advanced Drawing
Art 3014 - Advanced Photo-Arts
Art 3019 - Advanced Sculpture (Context and Environment)
Philosophy 2150 - Aesthetics
Sociology 3380 - Sociology of the Arts

***6.0 credit hours.*

8. Recreation Studies

Physical Education 1000 - Wellness and Physical Activity
Physical Education 2810 - Recreation in the Leisure Age
Physical Education 3810 - Community Recreation
Physical Education 4620 - Leadership and Management of Physical Education, Sport and Recreation

**Courses offered in Faculties/Schools other than Arts and Science. Students are reminded that not more than four courses outside of Arts and Science may be applied towards degree credit for the B.A., B.Sc. or BASc. Courses cross-listed between the Faculty of Arts and Science and another Faculty do not count towards the limit outside Arts and Science.*

Applied Studies, Independent Study and Special Topics Courses

Applied Studies, Independent Study (in addition to the core requirement) and Special Topics courses may be counted towards the major provided: (1) they are clearly related to one of the eight subfields and (2) they are approved by the Coordinator of the program.

Combined Degrees

Students accepted into Combined Degrees need to complete only 15 courses towards the multidisciplinary major in Urban and Regional Studies. At least six the courses must be taken at the 3000/4000 level. Ten courses should be selected from the core list. The remaining five courses should include at least two of the eight subfields and at least two disciplines. For further details students should discuss their plans with one of the program Coordinators.

Urban and Regional Studies

(Independent Study - Required in major)

Total number of courses required for the Urban and Regional Studies major 20

gg. Women's Studies

Courses are offered in Women's Studies which provide a comprehensive examination, utilizing feminist theory and research methodologies, of the historical and contemporary experiences and contributions of women in society. The goal of Women's Studies is to increase the recognition of and appreciation for women and their lives and experiences. Gender, as a focus of analysis, will be used as an analytical framework to study and reconceptualize a variety of academic disciplines in order to better illuminate and report women's perspectives.

Options for students in Women's Studies include the development of an Individual Multidisciplinary major, adjunct courses to a disciplinary major, one disciplinary stream for the General Major in the Social Sciences, or selection of elective courses for personal interest. For individual majors see the Coordinator of Women's Studies or the Assistant Dean (Curriculum and Advising), Faculty of Arts and Science.

18. PRE-PROFESSIONAL TRANSFER PROGRAMS

Students at the University of Lethbridge may prepare themselves to apply for admission to a number of professional programs offered at other institutions. Admission to these programs is by quota and is competitive.

Through arrangements between the University of Lethbridge and professional faculties at other universities, transfer programs have been established for the professional programs listed below. Students should be aware that programs offered by other institutions are subject to change or cancellation without notice. The University of Lethbridge endeavours to provide students with complete, timely and accurate information but cannot guarantee the offerings of other institutions. At the time of Calendar publication, the information listed below was correct.

Some professional schools make specific course recommendations for students preparing to apply for admission. However, they reserve the right to admit students who have not followed these recommendations, but have

chosen to study other disciplines. The programs suggested here are intended to give students priority access to courses satisfying the programs recommended by the professional schools. Students may choose alternative routes but do so at their own risk. Please refer to the Program Planning Guide Enclosures for Pre-Professional Transfer programs for more specific information.

Students are advised that D grades are not transferable. As well, students may experience difficulties in transferring courses for which grades are not assigned: for example, courses for which Credit/Non-Credit or Pass/Fail appear on the transcript generally do not transfer.

Students who plan to apply to professional programs at other universities not listed below must have courses approved by the professional faculty at the institution into which they intend to transfer. The University of Lethbridge cannot guarantee program requirements for such programs.

Students with an academic objective of Engineering, Nutrition and Food Sciences and Optometry select the appropriate pre-program. Students with an academic objective of Dentistry, Journalism, Law, Medicine, Social Work, and Veterinary Medicine select a University of Lethbridge degree program (either B.A. or B.Sc.) with an appropriate major. Note that Biochemistry and Agricultural Biotechnology are fields of study in their own right and are also designed to prepare students for application to professional programs of Dentistry, Medicine and Veterinary Medicine.

	University of Transfer	U of L Program of Admission	Year of Program	First Major
Dentistry	Alberta	B.Sc.	1, 2, 3, 4	Agricultural Biotechnology/ Biochemistry
Engineering	Alberta	Pre-Engineering	1	n/a
Journalism	Regina	B.A.	1, 2, 3, 4	B.A. majors
Law	Alberta	B.A.	1, 2, 3, 4	B.A. majors
Law	Calgary	B.A.	1, 2, 3, 4	B.A. majors
Medicine	Alberta	B.Sc.	1, 2, 3, 4	Agricultural Biotechnology/ Biochemistry
Medicine	Calgary	B.Sc.	1, 2, 3, 4	n/a
Nutrition and Food Sciences	Alberta	Pre-Nutrition and Food Sciences	1	n/a
Optometry	Waterloo	Pre-Optometry	1	n/a
Social Work[1]	Calgary	B.A.	1, 2, 3, 4	B.A. majors
Veterinary Medicine[2]	Saskatchewan	B.Sc.	1, 2, 3, 4	Agricultural Biotechnology/ Biochemistry

[1] *The final two years of the Bachelor of Social Work program are offered at the University of Lethbridge by the University of Calgary Faculty of Social Work, Lethbridge Division. See* ***Part 10 - Social Work*** *in this Calendar.*

[2] *Although admission to the Veterinary Medicine program at the University of Saskatchewan is possible after two years of study, it may be in the student's best interest to take three years to meet the pre-Veterinary requirements. The program at the University of Saskatchewan is four years, regardless of the student's admission qualifications.*

a. Dentistry

Students with an academic objective of Dentistry are admitted to the B.Sc. program with a major in Agricultural Biotechnology or Biochemistry. Students are referred to **Sections 5** and **17.b and f respectively** for information on the University of Lethbridge general degree and major requirements.

Minimum of 20 courses at the University of Lethbridge
University of transfer: Alberta

Applicants are expected to have completed the following senior high school courses:

Biology 30
Chemistry 30
English 30
Mathematics 30
Physics 30

The basic requirement for admission to the Faculty of Dentistry is 20 courses (60.0 credit hours), including 6.0 credit hours in each of the following:

Biology
English
Inorganic Chemistry
Organic Chemistry
Physics

Note: *Program requirements are currently under review. Contact Academic Advising (SU060, 329-5106) for further information.*

For detailed information about the Dentistry program at the University of Alberta, and planning the University of Lethbridge degree in order to meet those requirements, students are directed to the Program Planning Guide for the B.Sc. with the appropriate major, with the ***Dentistry Enclosure****.*

b. Engineering (Alberta)

Students with an academic objective of Engineering must apply to the pre-Engineering program.

11 courses at the University of Lethbridge
University of Transfer: Alberta

Required courses include:

Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Chemistry 2000 - Chemical Equilibrium and Electrochemistry
Computer Science 1620 (1600) - Introduction to a Programming Language
Engineering 2000 - Engineering Statics
Engineering 2060 - Engineering Mechanics
Mathematics 1410 (1450) - Elementary Linear Algebra
Mathematics 1560 - Calculus I
Mathematics 2560 - Calculus II
Physics 1000 - Introduction to Physics I
Physics 2000 - Introduction to Physics II

One of: Economics 1001 - Introduction to Economics
English 1900 - The World of Words
History 2710* - Canada to 1867

Linguistics 2300 - Introduction to Linguistics
Philosophy 1000 - Introduction to Philosophy
Philosophy 2120* - Contemporary Moral Problems
Political Science 2210* - Canadian Politics and Government

**Has prerequisite*

Students are expected to complete the required 11 courses in two successive semesters.

> **Note:** *Program requirements are currently under review. Contact Academic Advising (SU060, 329-5106) for further information.*

In addition to the above, applicants are expected to have completed the following senior high school courses:

Chemistry 30
English 30
Mathematics 30
Mathematics 31
Physics 30

Suggested Timetable

Fall	*Spring*
Chemistry 1000	Chemistry 2000
Computer Science 1620 (1600)	Engineering 2060
Engineering 2000	Mathematics 1410 (1450)
Mathematics 1560	Mathematics 2560
Physics 1000	Physics 2000
Elective	

For detailed information about the Engineering program at the University of Alberta, and planning the University of Lethbridge degree in order to meet those requirements, students are directed to the Program Planning Enclosure for ***Engineering****.*

c. Journalism

Students with an academic objective of Journalism are generally admitted to a B.A. program at the University of Lethbridge with a major of the student's choice. Majors in Economics, English, History, Political Science or Sociology may be of particular interest. Students are referred to **Sections 4 and 17 respectively** for information on the University of Lethbridge general degree and major requirements.

Minimum of 20 courses at the University of Lethbridge
University of transfer: Regina

Among the courses completed for the B.A. degree, students should ensure that they have the following:

Required courses include:

English 1900 - The World of Words

One of:
English 2000 - Canadian Literature
English 2100 - Poetry
English 2200 - Fundamentals of Drama
English 2300 - Prose Fiction
English 2400 - Survey of English Literature I
English 2450 - Survey of English Literature II
English 2500 - Survey of American Literature I
English 2550 - Survey of American Literature II

One of:
Logic 1000 - Introduction to Logic
Mathematics 1410 (1450) - Elementary Linear Algebra
Mathematics 1510 - Techniques of Calculus
Mathematics 1560 - Calculus I

One of:
Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 1020 - Diversity of Life
Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Geology 2060 - Physical Geology
Physics 1000 - Introduction to Physics I

One of:
Art 1000 - Introduction to Art
Drama 1000 - Introduction to Dramatic Arts
Music 1000 - Introduction to Music

One of:
Linguistics 2300 - Introduction to Linguistics
Philosophy 1000 - Introduction to Philosophy
Religious Studies 1000 - Introduction to World Religions
Additional English course

Three of:
Economics 1001 - Introduction to Economics
History 2710* - Canada to 1867
OR History 2720* - Canada since 1867
Political Science 2210* - Canadian Politics and Government
Sociology 3390* - Sociology of Mass Communication

One of:
French 1500 - Intermediate Language I
OR French 2000 - Intermediate Language II
German 1500 - Language I
Latin 2000 - Intermediate Latin I
Spanish 1500 - Language I

**Has prerequisite*

The remaining courses are to be chosen from the Faculty of Arts and Science course offerings and should be in accordance with the General Liberal Education Requirement.

For detailed information about the Journalism program at the University of Regina, and planning the University of Lethbridge degree in order to meet those requirements, students are directed to the Program Planning Guide for the B.A. with an appropriate major, and the ***Journalism Enclosure****.*

d. Law (Alberta)

Students with an academic objective of Law are generally admitted to a B.A. program at the University of Lethbridge with a major of the student's choice. Students are referred to **Sections 4 and 17 respectively** for information on the University of Lethbridge general degree and major requirements.

30 courses at the University of Lethbridge
University of Transfer: Alberta

To be considered for admission prospective applicants must have an undergraduate degree or have completed at least 30 semester courses. In exceptional circumstances, students may apply to the Faculty of Law after completion of 20 courses. Students completing an approved 30-course program at the University of Lethbridge may attain a B.A. or B.Sc. degree from this University upon completion of the Law program. Consultation with Academic Advisors regarding the Combined Degrees program must occur before students register in their 15th course.

Although the Faculty of Law, University of Alberta, does not identify any particular discipline as a required area of study in the pre-Law program, the nature and scope of legal studies are such that a student should possess knowledge from such disciplines as Economics, History, Philosophy and Political Science. While a pre-Law background in the pure Sciences should not be seen as a disadvantage, the oral, literary and analytical skills developed in the Humanities and Social Sciences provide an excellent foundation for a career in Law.

Students are directed to the Program Planning Guide for the B.A. with the appropriate major, with the **Law Enclosure**.

e. Law (Calgary)

Students with an academic objective of Law are generally admitted to a B.A. program at the University of Lethbridge with a major of the student's choice. Students are referred to **Sections 4 and 17 respectively** for information on the University of Lethbridge general degree and major requirements.

30 courses at the University of Lethbridge
University of Transfer: Calgary

To be considered for admission, prospective applicants must have an undergraduate degree or have completed at least 30 semester courses. Students completing an approved 30-course program at the University of Lethbridge may attain a B.A. or B.Sc. from this University upon successful completion of the professional program. Consultation with Academic Advisors regarding the Combined Degrees program must occur before students register in their 15th course.

There are no formal pre-Law requirements. The Faculty of Law at the University of Calgary recognizes that students may benefit from a diverse educational background and seeks, therefore, to attract applicants from business, humanities, pure science and social science undergraduate courses which develop analytical and reasoning skills. Courses which stress the use of the English language are advantageous in the preparation for a career in Law. The courses which best fit this description are found in the Humanities and Social Sciences.

Students are directed to the Program Planning Guide for the B.A. with the appropriate major, with the **Law Enclosure**.

f. Medicine (Alberta)

Students with an academic objective of Medicine (Alberta) are admitted to the B.Sc. program with a major in Agricultural Biotechnology or Biochemistry. Students are referred to **Sections 5 and 17.b and f respectively** for information on the University of Lethbridge general degree and major requirements.

Minimum of 20 courses at the University of Lethbridge
University of Transfer: Alberta

Applicants are expected to have completed the following senior high school courses:

Biology 30
Chemistry 30
English 30
Mathematics 30
Physics 30

Although students may apply after completion of 20 courses, most students are admitted after completion of an undergraduate degree. Those students who complete an approved 30-course program at the University of Lethbridge may attain a B.Sc. from this University upon completion of the Medicine program. Consultation with Academic Advisors must occur before students register in their 15th course.

All students considering Medicine at the University of Alberta must include the following:

6.0 credit hours in each of:

Biology
English
Inorganic Chemistry
Organic Chemistry
Physics

and 3.0 credit hours in Statistics.

For detailed information about the Medicine program at the University of Alberta, and planning the University of Lethbridge degree in order to meet those requirements, students are directed to the Program Planning Guide for the B.Sc. - with the appropriate major, with the ***Medicine (Alberta) Enclosure****.*

g. Medicine (Calgary)

Students with an academic objective of Medicine (Calgary) are generally admitted to a B.Sc. program at the University of Lethbridge with a major of the student's choice. Majors in Agricultural Biotechnology, Biochemistry and Neuroscience may be of particular

interest, although students from a wide variety of majors are admitted to this program. Admission is not restricted to students who have completed a B.Sc. Students are referred to **Sections 5 and 17 respectively** for information on the University of Lethbridge general degree and major requirements.

20 courses at the University of Lethbridge
University of transfer: Calgary

Most successful applicants to the University of Calgary program will have completed a baccalaureate degree before admission. However, to be considered for admission, prospective applicants must have completed a minimum of two full years of university courses.

The Faculty of Medicine recommends that necessary background preparation ordinarily includes courses in the following:

Biochemistry
Calculus
English
General Biology
General Chemistry
Mammalian Physiology or Comparative Physiology
Organic Chemistry
Physics
Psychology or Sociology or Anthropology

Completion of these courses does not guarantee admission.

For detailed information about the Medicine program at the University of Calgary and planning the University of Lethbridge degree in order to meet those requirements, students are directed to a Program Planning Guide with the major of their choice, with the ***Medicine (Calgary) Enclosure****.*

h. Nutrition and Food Sciences

Students with an academic objective of Nutrition and Food Sciences must apply to the pre-Nutrition and Food Sciences program.

10 courses at the University of Lethbridge
University of transfer: Alberta

Required courses include:

Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Chemistry 2000 - Chemical Equilibrium and Electrochemistry
Chemistry 2100 - Elements of Organic Chemistry I
Chemistry 2200 - Elements of Organic Chemistry II
Economics 2000* - Principles of Macroeconomics
Economics 2001* - Principles of Microeconomics
English 1900 - The World of Words
Mathematics 1560 - Calculus I
Statistics 1770 - Introduction to Probability and Statistics

**Has prerequisite*

Any courses from this list (appropriate to the chosen major) not taken at the University of Lethbridge must be taken at the University of Alberta after admission to the Faculty of Agriculture, Forestry, and Home Economics.

In addition to the above, applicants are expected to have completed the following senior high school courses:

Biology 30
Chemistry 30
English 30
Mathematics 30

Suggested Timetable

Fall	*Spring*
Biology 1010	Chemistry 2000
Chemistry 1000	Chemistry 2200
Chemistry 2100	Economics 2000
Economics 1001 (prerequisite)	Economics 2001
English 1900	Statistics 1770
Mathematics 1560	

For detailed information about the Nutrition and Food Sciences program at the University of Alberta, and planning the University of Lethbridge degree in order to meet those requirements, students are directed to the Program Planning Enclosure for ***Nutrition and Food Sciences.***

i. Optometry

Students with an academic objective of Optometry must apply to the pre-Optometry program.

10 or 20 courses at the University of Lethbridge
University of transfer: Waterloo

The University of Lethbridge offers a 10- or 20-course program which qualifies a student for application to the School of Optometry at the University of Waterloo.

Required courses include:

First Year

Biology 1010 (Biology 1000 prior to 1996/1997) - Cellular Basis of Life
Biology 1020 - Diversity of Life
Biology 2000 - Principles of Genetics
Chemistry 1000 - Atoms, Molecules and Chemical Reactions
Chemistry 2000 - Chemical Equilibrium and Electrochemistry
Mathematics 1560 - Calculus I
Mathematics 2560 - Calculus II
Physics 1000 - Introduction to Physics I
Physics 2000 - Introduction to Physics II
Psychology 1000 - Basic Concepts of Psychology

Second Year

Biology 3200 (Microbiology 2000) - Principles of Microbiology
Chemistry 2100 - Elements of Organic Chemistry I
Chemistry 2200 - Elements of Organic Chemistry II
Physical Education 2600 - Functional Human Anatomy
Psychology 3010 (2400)* - Introduction to Statistics in Psychological Research

**Has prerequisite*

Five additional courses, one of which is the prerequisite for Psychology 3010 (2400).

Biochemistry 3310 - Biochemistry I is strongly recommended.

Students should write directly to the School of Optometry for information approximately one year before they plan to apply: Admissions Office, School of Optometry, University of Waterloo, Waterloo, Ontario N2L 3G1.

Suggested Timetable

Year One

Fall	***Spring***
Biology 1010	Biology 1020
Chemistry 1000	Biology 2000
Mathematics 1560	Chemistry 2000
Physics 1000	Mathematics 2560
Psychology 1000	Physics 2000

Year Two

Fall	***Spring***
Chemistry 2100	Biology 3200 (MIBI 2000)
Physical Education 2600	Chemistry 2200
2000-level Psychology	Psychology 3010 (2400)
Elective	Elective
Elective	Elective

For detailed information about the Optometry program at the University of Alberta, and planning the University of Lethbridge degree in order to meet those requirements, students are directed to the Program Planning Enclosure for ***Optometry.***

j. Social Work

Students with an academic objective of Social Work are generally admitted to a B.A. program at the University of Lethbridge with a major of the student's choice. Majors in Economics, Political Science, Psychology or Sociology may be of particular interest. Students are referred to **Sections 4 and 17 respectively** for information on the University of Lethbridge general degree and major requirements.

Minimum of 20 courses at the University of Lethbridge
University of transfer: Calgary

The Bachelor of Social Work is offered through the University of Calgary and may be taken at one of the three divisions: University of Calgary campus, University of Lethbridge campus or University of Alberta campus.

The University of Lethbridge offers a 20-course program which qualifies a student for application to the University of Calgary, Faculty of Social Work. Although there are no required pre-Social Work courses, the nature of the profession is such that a student should possess a strong background in the Social Sciences before application to the Faculty.

Prospective applicants may also enrol in Social Work 201 (Introduction to Social Welfare), which is offered in the Spring semester on the University of Lethbridge campus. Students must first obtain a letter of permission granting them Visiting Student Status to the University of Calgary from the Arts and Science Academic Advising Office as well as provide an unofficial transcript of all post-secondary education.

For further details, see **Part 10, Social Work** in this Calendar.

Students are directed to the Program Planning Guide for the B.A. with the appropriate major, with the ***Social Work Enclosure****.*

k. Veterinary Medicine

Students with an academic objective of Veterinary Medicine are admitted to the B.Sc. program with a major in Agricultural Biotechnology or Biochemistry. Students are referred to **Sections 5 and 17.b and f respectively** for information on the University of Lethbridge general degree and major requirements.

Minimum of 30 courses at the University of Lethbridge
University of transfer: Western College of Veterinary Medicine, University of Saskatchewan

Although admission to the Western College of Veterinary Medicine may be possible after 20 courses, the likelihood of acceptance increases with the level of education achieved. This three-year program gives the student more academic flexibility, following requirements for both application to the Western College of Veterinary Medicine and the requirements for a Bachelor of Science (Agricultural Biotechnology or Biochemistry) at the University of Lethbridge.

The minimum admission requirements for Veterinary Medicine are as follows:

6.0 credit hours in each of:

- Biochemistry
- Biology
- Chemistry
- English
- Mathematics or Statistics
- Physics

plus:

3.0 credit hours in each of:

- Genetics
- Introductory Microbiology
- Organic Chemistry

plus:

15.0 credit hours of electives

For detailed information about the Veterinary Medicine program at the University of Saskatchewan (Western College of Veterinary Medicine), and planning the University of Lethbridge degree in order to meet those requirements, students are directed to the Program Planning Guide for the B.Sc. with the appropriate major, with the ***Veterinary Medicine Enclosure.***