

Collaborative Programs

The following programs do not reside within a single faculty. They call upon the resources of two or more faculties which collaborate on all aspects of the programs. Multidisciplinary and interdisciplinary in approach, these programs create structures for student learning not otherwise possible.

Summary of Degree Programs

Degrees Offered

	Dance ¹	Earth Science ²	East Asia ³	Environmental Science ²	Film Studies ⁴	Latin American Studies ³	Transportation Science ⁵
UNDERGRADUATE	BA		BA			BA	
		BSc		BSc			
		BSc Honours		BSc Honours			
		Minor			Minor		Minor

¹Offered by Faculties of Fine Arts and Kinesiology

²Offered by Faculties of Science and Social Sciences

³Offered by Faculties of Communication and Culture, Humanities and Social Sciences

⁴Offered by Faculties of Communication and Culture, Fine Arts, and Humanities

⁵Offered by Faculties of Engineering and Social Sciences and the Van Home Institute

Asian Studies

Introduction

Coordinator – L.S. Kawamura

The Asian Studies program is a collaborative offering of the Faculties of Communication and Culture, Humanities and Social Sciences. It includes a BA in East Asia and minors in South Asian Studies, East Asian Studies, Chinese and Japanese already offered through the Faculties of Communication and Culture and Humanities. This umbrella structure provides an institutional basis for the strengthening of interdisciplinary offerings in East Asia and for future developments of a similar nature in the areas of South Asia and the ASEAN nations.

The program is designed for students with an interdisciplinary interest in Asia. Career opportunities for graduates of this program exist in government departments, the diplomatic services or private corporations with business concerns in the area.

Students may wish to consider undertaking a double Major with a disciplinary subject such as Political Science or Philosophy, especially if they are contemplating proceeding to graduate work. Combinations with other interdisciplinary majors could well be considered also. As well, the East Asia Major may be combined with a Development

Studies, South Asian Studies, Chinese or Japanese Minor; in no case, however, may the same course count towards both the Major and the Minor. See the relevant faculty sections of this Calendar for further information on these Minors. Disciplinary Minors should also be considered.

Admission

Frosh and transfer students wishing to enroll in the East Asia Major within the Asian Studies program must meet minimum admission requirements as set out in the Academic Regulations section at the front of this Calendar. All applicants must have included English 30, and Pure Mathematics 30 (or Mathematics 31) or a language (other than English) at the 30 level, or their equivalents.

All students must satisfy the Effective Writing Requirement as outlined in the Academic Regulations section (at the front) of this Calendar.

Upon admission to the East Asia Major, students are required to have their schedule of courses approved by the Coordinator of the Asian Studies program. Students are advised to read and carefully consider all regulations and, in cases of doubt as to the precise meaning of any statement or regulation, to consult with the Coordinator of the Asian Studies program or the Associate Dean (Student Affairs) of one of the three

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faculties (Communication and Culture, Humanities, or Social Sciences).

Requirements

- Successful completion of an approved program equivalent to 20 full courses.
 - A minimum grade point average of 2.00 must be achieved over all 20 courses.
 - Not more than five full "D" or "D+" grades will be allowed in the 20 courses.
 - Not more than one full "D" or "D+" grade may be in the Major field.
- Not more than 10 of the required 20 courses may be transferred from other institutions and counted towards the degree.
 - At least half the courses counting towards the Major must be taken at the University of Calgary.
- Successful completion of at least seven full-course equivalents in the Major field.
- At least two full-course equivalents in Area III; of these, at least one full-course equivalent must be from the Faculty of Science.
- At least 12 full-course equivalents numbered 300 or above.
- Successful completion of General Studies 300.
- A maximum of six full-course equivalents may be taken from outside the Faculties of Communication and Culture, Humanities, Science and Social Sciences. A maximum of one full-course equivalent activity course (Dance Education Activity/Theory, Outdoor Pursuits Activity/Theory, and Physical Education Activity/Theory) may be credited towards degree program requirements.

The requirements for the Major field (item 3 above) will be composed of the following:

Foundational: one full-course equivalent (East Asia 300)

Frameworks/Methods: one full-course equivalent

Language: two full-course equivalents (minimum)

Capstone: one full-course equivalent (East Asia 500)

Optional Courses: to bring total to a minimum of seven full-course equivalents.

Foundational Course

East Asia 300

Conceptual Frameworks and Methods Requirement

One half course offered from each of the Faculties of Social Sciences and Humanities (total: one full-course equivalent). These courses will provide the conceptual framework in at least two disciplines to prepare for an interdisciplinary study of the East Asian region. The specific list of courses reflects the likely emphases of the Capstone course, East Asia 500, and thus provides the conceptual framework for advanced study.

Faculty of Humanities

Comparative Literature 201, 203
Philosophy 201
Religious Studies 205

Faculty of Social Sciences

Anthropology 203
Economics 203 (pre/corequisite
Economics 201 or consent of the
Department)
Geography 203
History 201, 205
Linguistics 201, 209
Political Science 201
Sociology 201

Language Component

Students will be required to complete at least two full-course equivalents in either Chinese or Japanese language from the following courses:

Chinese 205, 207, 229, 301, 303, 311,
313, 331, 333, 421
Japanese 205, 207, 301, 303, 331, 333

Capstone Course

East Asia 500

Optional Courses

A minimum of four half courses and a maximum of 10 half courses must be chosen from the following options. Within a student's overall program, a minimum of one and one-half full-course equivalents at the 400/500/600 level must be completed (including East Asia 500).

The following courses are grouped by Faculty for convenience. So grouped, students may choose to concentrate in an arts and civilization stream (broadly speaking, Fine Arts, Humanities) or a contemporary issues stream (broadly speaking, Communication and Culture, Social Sciences, Policy and Education, Haskayne School of Business). Students are free, however, to choose any combination of the courses from any of these Faculties towards their Major.

At least two full-course equivalents and not more than five full-course equivalents from the following:

Faculty of Communication and Culture

Development Studies 375
East Asian Studies 317 (may be counted towards the Major only if completed prior to entrance into the East Asia Major), 319, 321, 403

Faculty of Humanities

Chinese 317, 431, 461
Japanese 317, 341, 461
Religious Studies 203, 313, 323, 595 (when applicable), 603 (when applicable)

Faculty of Social Sciences

Anthropology 303 (when applicable), 323, 327, 427
History 315, 317, 389 (Political Science 389), 405
Political Science 365, 465, 467, 475, 501 (when applicable)

Other Faculties

Art History 325, 365
Strategy and Global Management 573

Regulations

Students in the East Asia Major within the Asian Studies program are governed by the Academic Regulations of the three Faculties (Communication and Culture, Humanities, and Social Sciences) as well as the Academic Regulations section (at the front) of this Calendar. With two exceptions, the three Faculties have the same academic regulations. These exceptions are the criteria for determining probationary status and dismissal and the grade point average criterion needed to carry more than five courses in any one academic session. In both cases, students in the East Asia Major within the Asian Studies program will follow the regulations listed in the Faculty of Humanities section of this Calendar. For all other regulations, students may consult the Calendar section for any of the three faculties.

BA Dance**Introduction**

The Faculty of Fine Arts and the Faculty of Kinesiology offer a four-year BA (Dance) program intended to give students a basis for understanding dance in a social and cultural context, while also providing in-depth study of dance as an art form in the twenty-first century. The program offers a broad approach to the study of dance, incorporating a balance between theoretical and practical training. The BA (Dance) degree is managed by the Dance Committee consisting of dance faculty members from Fine Arts and Kinesiology.

School of Alberta Ballet

Within the curriculum of the BA (Dance) degree it is possible to pursue an emphasis

in ballet by transferring courses from the School of Alberta Ballet (SAB). Students take a total of eight full courses at the SAB and twelve full courses at the University of Calgary. Students must be of an intermediate ballet level or higher. Acceptance into the program is by audition and by satisfying basic University of Calgary admission requirements.

Additional information about the BA Dance degree program may be obtained from the Student Advisor BA Dance, Faculty of Fine Arts, University of Calgary, Calgary, Alberta T2N 1N4 (403) 220-5382.

Admission**Bachelor of Arts (Dance)**

Applicants will be considered for entrance to the BA Dance degree program based on a dance audition, an audition form for the BA Dance, a Statement of Interest and basic University admission requirements.

Applications for admission to the University and audition forms for the BA (Dance) degree may be obtained from the Faculty Advisor or www.ffa.ucalgary.ca.

Application for general admission to the University must be received by the Admissions Office by March 1. Audition forms for the BA (Dance) degree must be received by the Student Advisor BA (Dance) (Contemporary and Ballet) by April 1.

Dance Audition

After submitting the basic University application form, and an audition form for admission to the BA Dance degree, applicants will be eligible to audition. Auditions are conducted by the BA Dance Committee and are held on the campus of the University of Calgary in April. At the audition, applicants will be required to participate in two dance classes and an interview. Applicants who live outside a 500 km radius of Calgary may submit a videotape to the BA Dance Committee in lieu of a personal audition; however, attendance at the audition is strongly recommended. Details for videotape submissions are included with the BA Dance audition form, and are available at www.ffa.ucalgary.ca

Limitation of Enrollment

New applicants should refer to "Admission Requirements" in the Academic Regulations section of this Calendar for regulations regarding University admission requirements. Enrollment in the BA (Dance) program is limited. Therefore, all qualified applicants may not be admitted. Applicants will be admitted on the basis of the following criteria:

1. academic standing in high school and/or previous post-secondary education (basic University admission requirements);
2. written Statement of Interest;
3. dance audition.

Notes: Continuing students with a Registration Priority 1 must register by June 30 of each year. Continuing students with a Registration Priority 4 must indicate their intention to register with the Faculty Advisor by June 30. Registration approval may be denied to continuing students who do not meet this deadline.

Requirements

First Year

1. Dance 203/235
2. Dance Education 251/Dance 209
3. Arts and Science Option/Arts and Science Option
4. Arts and Science Option/Dance Education 247
5. One-half Junior English/Dance 207

Second Year

1. Dance 305/307
2. Dance 311/313 or 321/323
3. Kinesiology 261/Dance 463
4. Dance 331/333
5. Dance 341/345

Third Year

1. Dance 405/407
2. Arts and Science Option/Arts and Science Option
3. Open Option/Dance Education 481
4. Dance Education 449/Arts and Science Option
5. Open Option/Fine Arts Option

Fourth Year

1. Open Option/Dance Education 427
2. Fine Arts Non-Dance Option/Open Option
3. Senior Open Option/Dance 491
4. Senior Open Option/Senior Open Option
5. Senior Open Option/Senior Open Option

Fine Arts options may be selected from any courses offered by the Faculty of Fine Arts except Dance courses offered by the Faculty of Fine Arts. Open Options may be selected from any courses offered at the University. Senior courses are courses at the 300 level or higher. Arts and Science options may be selected from any courses offered by the Faculties of Communication and Culture, Humanities, Kinesiology, Science and Social Sciences. However, students are required to select at least one-half course from each of three different faculties.

Note: Courses listed as Dance Education cannot be used to satisfy the Arts and Science breadth requirement. Only Kinesiology courses will apply.

Summary of Academic Requirements

Required Dance and Dance Education courses	10.5
Required Kinesiology course5
Junior English5
Fine Arts Options	1
Arts and Science Options	3
Open Options	2
Senior Open Options	2.5
Total	20 full courses

Other Requirements

In addition to the above requirements, all BA (Dance) majors must demonstrate evidence of computer competence. This requirement is satisfied by successful completion of the Computer Competence Test administered annually by the BA Dance Committee. It is highly recommended that this test be completed in second year, or third year for transfer students.

Regulations

BA (Dance) Degree "With Distinction"

The notation "With Distinction" will be entered in the permanent record and on the graduation parchment of a student who completes a major program with a grade point average of 3.50 in his/her final 15 full-course equivalents. In cases in which the "last 15" must include some but not all of a group of courses taken concurrently, the selection will be made in the manner most advantageous to the student. A student who has taken part of his/her course work at another post-secondary institution or who has transferred to the BA (Dance) program at a relatively late stage may be granted a degree "With Distinction" at the discretion of the Dance Committee.

Minor in Dance

A minimum of ten half courses is required to complete the Minor in Dance. A minimum of six half courses must be taken from Dance (DNCE) courses offered by the Faculty of Fine Arts. The remaining four half courses may be taken either from Dance courses in Fine Arts, or from Dance Education (DCED) courses in the Faculty of Kinesiology.

Earth Science

1. Programs Offered

BSc and BSc Honours in Earth Science

The Earth Science program is a single degree, four-year multidisciplinary program jointly administered by the Faculty of Science and the Faculty of Social Sciences. Since this is a restricted entry program, students should contact the Earth Science Director as early as possible for proper advice regarding their program.

Double Major and Double Degree Programs

- Double major programs combining any two of Earth Science, Geology, Applied and Environmental Geology, Geophysics, or Environmental Science are allowed.
- Double major, double degree or major/minor programs are not allowed combining Earth Science and Geography.

2. Program vs. Faculty Regulations

The Earth Science program is governed by a combination of general Faculty of Science and Faculty of Social Sciences regulations, as well as the additional program specific regulations listed below. In cases where the regulations of the two faculties are different, students in the Earth Science program will follow the regulations listed in the Faculty of Science section.

It is essential for students to be familiar with all regulations and it is helpful to read the Faculty of Science Regulations in Section III first.

Students completing a BSc or BSc Honours in Earth Science will be eligible for consideration for admission to the graduate program in Geography at the University of Calgary and will be eligible for consideration for admission to the graduate program in the Department of Geology and Geophysics (additional course work will be required).

APPEGA Regulations

The practice of geology and geophysics in Alberta is governed by Provincial law and regulated by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA). The Earth Science program is not designed to meet those requirements. Persons intending to pursue geology or geophysics as a profession should obtain a BSc or BSc Honours in Geology, Geophysics, or Applied and Environmental Geology.

3. Program Information

Program Director: D. Smith
Program Office: ES 926
Telephone: 220-6191
Fax: 210-8105
Web Site: http://www.ucalgary.ca/~earthsci/
E-mail: earthsci@ucalgary.ca

4. Enrollment Limitations

Program Enrollment Limitations

The Department of Geology and Geophysics limits enrollment in all programs, and students requesting admission into the Earth Science program will have to meet the following criteria in addition to those listed in Section III (Faculty Regulations) in the Faculty of Science section of this Calendar:

- (i) Completion of the following courses with a grade of "C-" or better in each course:
- Chemistry 201
 - Geology 201
 - Geology 203
 - Mathematics 249 or 251 or Applied Mathematics 217
- (ii) A minimum admission grade point average (GPA) is established for each program each year. Students will be admitted on the basis of this GPA calculated over the most recent course work to a maximum of 5 full-course equivalents (FCE) (University of Calgary courses and/or transferable courses taken at other institutions). All grades within a session will be included except where the number of courses taken within a session exceeds that required to fulfill (to a maximum of) five FCE, in which case the highest grades will be used.

Course Enrollment Limits

Geology 311, 313, 337, 341, 373, 381, 391, 401, 429, 437, 441, 503, and Geophysics 355 are limited enrollment courses. Earth Science majors will have priority registration in Geology 311, 337, 341, 381, and 391.

5. Program Details

Admission

See Subsection III.3 on "Enrollment Limitations" in the Faculty of Science section of this Calendar.

Courses constituting the field of Earth Science

- Archaeology 201 and 596
- Geography 201, 203, 305, 307, 313, 321, 333, 391, and 599
- Geology 201, 203, 307, 311, 337, 339, 341, 373, 381, 391, and 510
- Geophysics 365, 375, and 509

Required Courses – Major Program

See also Section III (Faculty Regulations), Subsections 4A (Program Requirements – Major Programs) and 5B (Course Selection – Introductory Courses) in the Faculty of Science section of this Calendar.

- 0.5 FCE – Archaeology 201
 0.5 FCE – Chemistry 201
 3.5 FCE – Geography 201, 203, 305, 313, 321, 333, and 391
 0.5 FCE – Geography 307 or Geology 373
 3.5 FCE – Geology 201, 203, 311, 337, 339, 341, 381, and one of 307 or 391
 1.0 FCE – Geophysics 365 and 375
 0.5 FCE – Mathematics 249 or 251 or Applied Mathematics 217
 0.5 FCE – Science 311

- 2.0 FCE – Science options from the following:
 Applied Mathematics 219
 Astronomy 211, 213
 Biology 231, 233
 Chemistry 203
 Mathematics 211 or 221, 253 or 263
 Physics 211 or 221, 223
- 3.5 FCE – Non-Science options as follows (see Areas Chart in Faculty of Social Sciences, Course Classification)
- 0.5 FCE – Archaeology Area II
 1.0 FCE – from the Faculty of Social Sciences Area II
 1.0 FCE – from the Faculty of Humanities
 1.0 FCE – from the Faculty of Humanities or Fine Arts Area I
 4.0 FCE – Open options

Note: Students are encouraged to take 400- and 500-level courses in the third and fourth years. 600-level courses are available to fourth year students with prerequisites and consent of the Department offering the course.

Required Courses – Honours Program

Same as Major program, but 0.5 or 1.0 FCE options must be replaced by one of the following with approval of the Earth Science Program Director:

- Archaeology 596
 Geography 599
 Geology 510
 Geophysics 509

Required Courses - Minor Program

5.0 FCE in the field of Earth Science; these must include:

- 0.5 FCE – Archeology 201
 1.5 FCE – Geography
 0.5 FCE – Geology 201
 1.0 FCE – Geology or Geophysics

Suggested Program Sequence (Majors and Honours)

First Year (Normally taken in the Faculty of Science, Natural Sciences program or the Faculty of Social Sciences)	
Fall	Winter
Chemistry 201	Geography 203
Geology 201	Geology 203
Mathematics 249 or 251 or Applied Mathematics 217	Option
Geography 201	Option
Option	Option

Second Year (Normally taken after transferring to the Earth Science program)	
Geography 313	Archaeology 201
Geography 321	Archaeology (Area II)
Geography 333	Geography 307 or Geology 373
Geography 391*	Geology 341
Geology 311	Option
Option	
Third Year	
Geography 305	Geology 307 or Option
Geology 337*	Geology 339**
Geology 381	Science 311
Geology 391 or Option	Option
Geophysics 365	Option
	Option
Fourth Year	
Geophysics 375	Option
Option	Option
Option	Option
Option	Option
Option	Option

*Geography 391 and Geology 337 run for about 10 days prior to the Fall Session.

**Geology 339 runs for about 10 days after the Winter Session.

In addition to these field school courses, students are permitted to register in 2.5 FCE in each of the Fall and Winter Sessions.

Environmental Science

1. Programs Offered in Environmental Science

BSc in Environmental Science

BSc Honours in Environmental Science

These are single-degree, four-year programs that are administered jointly by the Faculty of Science and the Faculty of Social Sciences. These multidisciplinary programs are flexible in scope. Students must select one of six areas of concentration: Biological Sciences, Chemistry, Geography and Social Sciences, Geology, Physics, or Statistics.

For program advice, see the Program Director, or the Undergraduate Officer in the Department of your area of concentration.

2. Program Information

Program Director: TBA
Office: ES 926
Telephone: (403) 220-8313
Web Site: www.fp.ucalgary.ca/ENSC/

3. Admission and Enrollment Limitations

Program application deadline is March 1.

See the Faculty of Science section of this Calendar for additional information and requirements.

Enrollment is limited in the Environmental Science program. Students may be admitted directly into the Environmental Science program and, once admitted, a place in the program is assured for students advancing through the second and subsequent years with satisfactory performance. Admission will be granted for Fall Session only and will be based upon academic merit.

As space permits, a certain number of students who wish to gain admission to the second or third year of the program by transferring from other institutions or programs will be accepted. Any student requesting admission at this level must have successfully completed at least 4 full-course equivalents (FCE) with a grade point average (GPA) of at least 2.80 calculated over the most recent course work, to a maximum of 5 FCE. (University of Calgary courses and/or transferable courses taken at other institutions.) All grades within a session will be included except where the number of courses taken within a session exceeds that required to fulfill (to a maximum of) five FCE, in which case the highest grades will be used.

Admission to the program and to particular areas of concentration may have to be limited. If so, students will be admitted in order of descending GPA on the most recent courses completed up to a maximum of 5 FCE.

Students applying for admission to the program in the areas of Biological Sciences and Geology must also meet the additional criteria listed in the Biological Sciences and Geology and Geophysics sections of this Calendar.

4. Courses Constituting the Fields in Areas of Concentration

For each area of concentration, the field will be Environmental Science 401, 501, 502, 503, 504, 505 plus all explicitly designated courses in the field of specialization: for Biological Sciences these include Biology, Biochemistry and Ecology; for Chemistry these include Chemistry; for Geography these include Geography; for Geology these include Geology; for Physics these include Physics, Applied Physics and Space Physics; for Statistics these include Mathematics and Statistics.

5. Program Requirements

(a) Major Program

The student must present an approved list of courses completed with passing grades. This list, referred to as the program, must satisfy the following conditions:

- A. (a) The program must contain the equivalent of at least 20 FCE, with at least 11 FCE numbered 300 or above.
 - (b) The GPA for the program must be at least 2.00.
 - (c) The program may not contain more than 3 FCE "D" or "D+" grades, or more than 1 FCE in the field with a "D" or "D+" grade.
 - B. (a) The program may not contain more than 10 FCE credits transferred from other institutions.
 - (b) At least half of the courses required in the area of concentration must be taken at the University of Calgary.
 - C. The program must contain:
 - (a) at least 1 FCE from the Faculty of Humanities (Philosophy 249 and 447 are recommended) plus 1 FCE from either the Faculty of Humanities or from those courses of the Faculty of Fine Arts designated as Area I (see the section on course classification in the Faculty of Social Sciences section of this Calendar),
 - (b) at least 2 FCE from the following list of Social Sciences courses related to the environment:
 - Anthropology 203, 337
 - Archaeology 201, 355, 453
 - Economics 201, 377
 - Geography 201, 203, 305, 307, 313, 321, 333, 339, 413, 417, 447, 503, 519, 547
 - History 437
 - Political Science 321
 - Psychology 205, 427
 - Sociology 201
 - (c) at least 10.5 FCE from Area III (as defined in the Faculty of Social Sciences section of this Calendar),
 - (d) Environmental Science 401, 501, 502, 503,
 - (e) specific Science and Social Sciences courses, depending on the area of concentration chosen by the student.
- The entire 20 FCE including the courses in Science and Social Sciences specific to each concentration are as follows:
- Concentration in Biological Sciences**
- 3.0 FCE – Biology 231, 233, 311, 313, 315, 331
 - 0.5 FCE – Biochemistry 393
 - 1.5 FCE – Ecology 417, 419, 425
 - 3.5 FCE – Chemistry 201, 203, 311, 315, 351, 353, and one of 421 or 515
 - 1.0 FCE – Mathematics 249 or 251, Mathematics 211 or 221 or 253
 - 1.0 FCE – Physics 211 or 221, 223 or Geology 201, 203
 - 0.5 FCE – Geography 201 or Geology 201
 - 0.5 FCE – Geology 401* or Geography 415
 - 2.5 FCE – Environmental Science 401,
- 501, 502, 503
 - 1.0 FCE – Options from Faculty of Humanities
 - 1.0 FCE – Options from Faculty of Humanities or Faculty of Fine Arts designated as Area I (as defined in the Faculty of Social Sciences section of this Calendar)
 - 2.0 FCE – Options from List 5.C (b) of Social Sciences courses.
 - 2.0 FCE – Options
- * Students wishing to take Geology 401 must take Geology 201 and Mathematics 253.*
- Concentration in Chemistry**
- 2.0 FCE – Biology 205, 307, Ecology 417, 419
 - 6.0 FCE – Chemistry 201, 203, 311, 315, 331, 333 or 373, 351, 353 or 355, 371, 421, 425, 515
 - 0.5 FCE – Statistics 327
 - 1.0 FCE – Geology 201, 401
 - 2.0 FCE – Mathematics 249 or 251, 253 or 263, Mathematics 221, Mathematics 331
 - 1.5 FCE – Physics 211 or 221, 223, 323
 - 2.5 FCE – Environmental Science 401, 501, 502, 503
 - 1.0 FCE – Options from Faculty of Humanities
 - 1.0 FCE – Options from Faculty of Humanities or Faculty of Fine Arts designated as Area I (as defined in the Faculty of Social Sciences section of this Calendar)
 - 2.0 FCE – Options from List C (b) of Social Sciences courses
 - 0.5 FCE – Option
- Concentration in Geography and Social Sciences**
- 0.5 FCE – Archaeology 201 or Anthropology 203
 - 2.0 FCE – Biology 205, 307, Ecology 417, 419
 - 1.0 FCE – Chemistry 203 or 209, 341
 - 6.0 FCE – Geography 201, 203, 305 or 307, 313 or 447, 321, 333, 339, 341 or 351 or 361 or 367 or 433, 405 or 407, 413 or 417, 415, 421
 - 1.5 FCE – Economics 201, 323 or 325 or 327 or 337 or 367, 377
 - 1.0 FCE – Mathematics 249 or 251, Mathematics 211 or 221 or 253 or 263
 - 1.0 FCE – Psychology 205 or Sociology 201, Political Science 321 or Psychology 427
 - 2.5 FCE – Environmental Science 401, 501, 502, 503
 - 1.0 FCE – from Anthropology 319, 337, 405, 419, 481, Archaeology 413, 419, 421, 425, 429, 501,

527, History 437, 441, 523, 529, Sociology 307, 457 or any courses offered by the Faculty of Social Sciences and listed in 5.C (b) or 5.C (e), but not used to satisfy 5.C (b) or other requirements in 5.C (e).

- 1.0 FCE – Options from Faculty of Humanities
- 1.0 FCE – Options from Faculty of Humanities or Faculty of Fine Arts designated as Area I (as defined in the Faculty of Social Sciences section of this Calendar)
- 1.5 FCE – Options
Recommended courses: Physics 211 or 221, 223

Concentration in Geology

- 2.0 FCE – Biology 205, 307, Ecology 417, 419
- 1.5 FCE – Chemistry 201, 203, 341
- 7.0 FCE – Geology 201, 203, 311, 313, 337, 339, 341, 373, 381, 401, 429, 475, 503, 505
- 1.5 FCE – Mathematics 221, 249 or 251, 253 or 263
- 1.0 FCE – Physics 211 or 221, 223
- 0.5 FCE – Statistics 327
- 2.5 FCE – Environmental Science 401, 501, 502, 503
- 1.0 FCE – Options from Faculty of Humanities
- 2.0 FCE – Options from List 5.C (b) of Social Sciences courses
- 1.0 FCE – Options

Concentration in Physics

- 2.0 FCE – Biology 205, 307, Ecology 417, 419
- 1.5 FCE – Chemistry 201, 203, 341
- 1.0 FCE – Geology 201, 401
- 2.5 FCE – Mathematics 221, Mathematics 249 or 251 or Applied Mathematics 217, Applied Mathematics 219, 307, 309
- 6.0 FCE – Physics 211 or 221, 225, 301, 325, 341, 343, 347, 355, 449, 663, Applied Physics 407, 427
- 1.0 FCE – from Applied Physics 573, Physics 561 or 599
- 0.5 FCE – Statistics 327
- 2.5 FCE – Environmental Science 401, 501, 502, 503
- 1.0 FCE – Options from Faculty of Humanities
- 2.0 FCE – Options from list 5.C (b) of Social Sciences courses

Concentration in Statistics

- 2.0 FCE – Biology 205, 307, Ecology 417, 419
- 1.0 FCE – Chemistry 209, 341 or 421
- 0.5 FCE – Physics 211 or 221

- 3.5 FCE – Mathematics 211, 251, 253, 321, 323, 349, 353
- 1.5 FCE – Statistics 327, 421, 429
- 2.0 FCE – Four of Statistics 407, 423, 425, 505, 519, 523, 525, 531
- 2.5 FCE – Environmental Science 401, 501, 502, 503
- 1.0 FCE – Options from Faculty of Humanities
- 1.0 FCE – Options from Faculty of Humanities or Faculty of Fine Arts designated as Area I (as defined in the Faculty of Social Sciences section of this Calendar)
- 2.0 FCE – Options from List 5.C (b) of Social Sciences courses
- 2.0 FCE – Options

(b) Honours Programs

The GPA requirements for the Honours program are specified in the Faculty of Science section of this Calendar in Section III (Faculty Regulations), Subsection 4 (Program Requirements, Honours Program). The course requirements are the same as for the Major programs except students must include one of Environmental Science 504 or 505 in their program, preferably in their final year of study.

Suggested Program Sequences

Biological Sciences

First Year	
Fall	Winter
Biology 231	Biology 233
Chemistry 201	Chemistry 203
Mathematics 249 or 251	Mathematics 211 or 221 or 253 ¹
Physics 211 or 221 or Geology 201 ¹	Physics 223 or Geology 203
Option	Option
Second Year	
Biology 311	Biology 315
Biology 313	Biology 331
Chemistry 351	Chemistry 353
Chemistry 311	Geography 201 ¹ or Option
Option	Option
Third Year	
Ecology 417	Ecology 419
Ecology 425	Chemistry 315
Environmental Science 401 ²	Geography 415
Option	Option
Option	Biochemistry 393
Fourth Year	
Environmental Science 501 ²	Environmental Science 503
Environmental Science 502	Environmental Science 502
Chemistry 421 or 515	Option

Option	Option
Option	Option

¹ Students wishing to take Geology 401 instead of Geography 415 are required to take Geology 201 instead of Geography 201, plus Mathematics 253, Physics 223. The courses above referenced by 1 are affected by this choice of program.

² Field course offered in the last two weeks before the beginning of the Fall Session.

Chemistry

First Year	
Fall	Winter
Chemistry 201	Chemistry 203
Mathematics 249 or 251	Mathematics 253 or 263
Physics 211 or 221	Physics 223
Geology 201	Biology 205
Option	Option
Second Year	
Computer Science 001	Chemistry 353 or 355
Chemistry 351	Chemistry 315
Chemistry 311	Mathematics 331
Physics 323	Biology 307
Mathematics 221	Statistics 327
Option	
Third Year	
Ecology 417	Ecology 419
Chemistry 331	Chemistry 371
Environmental Science 401 ¹	Chemistry 421
Geology 401	Chemistry 425
Option	Option
Fourth Year	
Environmental Science 501 ¹	Environmental Science 503
Environmental Science 502	Environmental Science 502
Chemistry 515	Chemistry 333 or 373
Option	Option
Option	Option

¹ Field course offered in the last two weeks before the beginning of the Fall Session.

Geology

First Year	
Fall	Winter
Geology 201	Geology 203
Chemistry 201	Chemistry 203
Mathematics 249 or 251	Mathematics 253 or 263
Physics 211 or 221	Physics 223
Option	Option

Second Year	
Geology 311	Geology 313
Geology 337 ¹	Geology 341
Chemistry 341	Geology 339 ¹
Geology 381	Biology 307
Biology 205	Statistics 327
Mathematics 221	
Third Year	
Ecology 417	Ecology 419
Geology 429	Geology 373
Geology 401	Geology 475
Option	Option
Environmental Science 401 ²	Option
Fourth Year	
Environmental Science 501 ²	Environmental Science 503
Environmental Science 502	Environmental Science 502
Geology 503	Geology 505
Option	Option
Option	

¹ Geology 337 runs for about 10 days before the start of the Fall Session and Geology 339 for about 10 days after the end of the Winter Session. In addition to these field school courses, students are permitted to register in five half courses in each of the Fall and Winter Sessions.

² Field course offered in the last two weeks before the beginning of the Fall Session.

Geography and Social Sciences

First Year	
Fall	Winter
Geography 201	Geography 203
Economics 201	Psychology 205 or Sociology 201
Mathematics 249 or 251	Mathematics 211 or 221 or 253
Biology 205	Archaeology 201 or Anthropology 203
Option	Option
Second Year	
Chemistry 341	Chemistry 203 or 209
Geography 313 or 447	Geography 333
Geography 321	Biology 307
Economics 377	Geography 339
Option	Option
Third Year	
Environmental Science 401 ¹	Political Science 321 or Psychology 427
Geography 305 or 307	Ecology 419
Geography 341 or 351 or 367 or 433	Economics 323 or 325 or 327 or 337 or 367
Geography 413 or 417	Option
Ecology 417	Option

Fourth Year	
Environmental Science 501 ¹	Environmental Science 503
Environmental Science 502	Environmental Science 502
Geography 405 or 407	Geography 415
Option	Geography 421
Option	Option

¹ Field course offered in the last two weeks before the beginning of the Fall Session.

Physics

First Year	
Fall	Winter
Physics 211 or 221	Physics 225
Geology 201	Applied Mathematics 219
Mathematics 249 or 251 or Applied Mathematics 217	Chemistry 203
Chemistry 201	Biology 205
Option	Mathematics 221
Second Year	
Physics 301	Physics 325
Physics 341	Biology 307
Physics 355	Physics 343
Applied Mathematics 307	Applied Mathematics 309
Chemistry 341	Physics 347
Third Year	
Environmental Science 401 ¹	Applied Physics 427
Geology 401	One of Applied Physics 573 or Physics 561 or 599
Applied Physics 407	Physics 449
Option	Statistics 327
Option	Option
Fourth Year	
Environmental Science 501 ¹	Environmental Science 503
Environmental Science 502	Environmental Science 502
Physics 663	One of Applied Physics 573 or Physics 561 or 599
Ecology 417	Ecology 419
Option	Option

¹ Field course offered in the last two weeks before the beginning of the Fall Session.

Statistics

First Year	
Fall	Winter
Physics 211 or 221	Mathematics 253
Biology 205	Chemistry 209
Mathematics 211	Option
Mathematics 251	Option
Option	Option

Second Year	
Chemistry 341 or 421	Biology 307
Geology 201	Mathematics 323
Mathematics 321	Mathematics 353
Mathematics 349	Statistics 327
Option	Option
Third Year	
Environmental Science 401	Statistics 407 or 425 or 505 or 523 or 525 or 531
Statistics 421	Statistics 407 or 425 or 505 or 523 or 525 or 531
Ecology 417	Ecology 419
Statistics 429	Option
Option	Option
Fourth Year	
Environmental Science 501	Environmental Science 503
Environmental Science 502	Environmental Science 502
Statistics 423 or 519	Statistics 407 or 425 or 505 or 532 or 525 or 531
Option	Statistics 407 or 425 or 505 or 532 or 525 or 531
Option	Option

6. Double Major and Combined Degree Programs

No degree combination will be allowed where both parts of the combination are in the same field of specialization (i.e. double major, major-minor, combined degree, second bachelor's degree). The double major combination BSc Environmental Science specialization in Biological Sciences/BSc Ecology and BSc Environmental Science specialization in Biological Sciences/BSc Biological Sciences will not be allowed, however all other combinations of Major programs in Biological Sciences and BSc Environmental Science specialization in Biological Sciences will be allowed.

The double major combination BSc Environmental Science specialization in Geology and BSc Applied and Environmental Geology will be allowed.

There is no minor program available in Environmental Science.

7. Regulations Governing Progress Through the Program

Students in the Environmental Science program are governed by the Academic Regulations of the Faculties of Science and Social Sciences as well as the general Academic Regulations section of this Calendar. With two exceptions, both Faculties have the same academic regula-

tions. These exceptions are the regulations concerning prerequisites and the GPA criterion for determining probationary status and dismissal. In both cases, students in the Environmental Science program will follow the regulations listed in the Faculty of Science section of this Calendar. For all other regulations, students may consult either the Faculty of Science or the Faculty of Social Sciences sections of this Calendar.

Film Studies

Introduction

The Minor in Film Studies is offered collaboratively by the Faculties of Communication and Culture, Fine Arts, and Humanities. It consists of five full-course equivalents in Film.

Contact Information

For information contact the Program Coordinator or (403) 220-6343.

Requirements

Required

A total of four full-course equivalents as follows: Film 200, 300, 321 **OR** 323

One and one-half full-course equivalent Film courses (which may include either Film 321 or 323 not chosen above). A minimum of one full-course equivalent must be at the 400 level.

Options

A total of one full-course equivalent to be chosen from other Film designated courses and/or:

Canadian Studies 331, 341

Communications Studies 367, 403, 441, 537, 567

Economics 499.63

Fine Arts 507

French 343

German 357

History 495

Religious Studies 399 (when the topic is "Religion and Film")

Spanish 471

Urban Studies 313

Note: *Students may not count Film 380 towards the Minor in Film Studies.*

BA in Latin American Studies

Program Notes

Director: D.F. Brown

Office: ES 444

Telephone: (403) 220-3930

Fax: (403) 282-6561

E-mail: dfbrown@ucalgary.ca

Website: www.ucalgary.ca/LAS

Introduction

The Latin American Studies program is a collaborative offering of the Faculties of Communication and Culture, Humanities and Social Sciences. Building upon the University's historical strength in issues relating to Latin America, this state-of-the-art degree program offers students diverse learning environments, and seeks to maximize opportunities for students to experience Latin America first-hand. The program stresses: the development of a critical and informed view of Latin America; linguistic skills; independent research and writing abilities; and cultural sensitivity based on a semester of study in Latin America. This major program prepares students for work in the public and private sectors in Canada that deal with Latin American countries and cultures. Graduates will find work opportunities in the diplomatic and the civil service, business, journalism, teaching and tourism.

Students may wish to consider combining the Latin American Studies Major with a disciplinary major, another interdisciplinary major, or a disciplinary or interdisciplinary minor. The same course may not be counted toward both the Major and the Minor. Nor is it normally allowed to use the same course(s) in both Majors. A maximum of ten full-course equivalents in any disciplinary subject (e.g. Spanish, Anthropology, Archaeology, Economics, Geography, History, Political Science) is permitted.

The Latin American Studies Major is available as part of a Combined Degree program within the Faculties of Humanities (BA/BA) or Social Sciences (BA/BA or BA/BSc). The Latin American Studies Major is also available as a Second Baccalaureate Degree. For Combined and Second Degree programs a maximum of ten full-course equivalents in any disciplinary subject (e.g. Spanish, Anthropology, Archaeology, Economics, Geography, History, Political Science) is permitted over the two degrees. A Minor in Latin American Studies is offered in the Faculty of Communication and Culture.

Admission

Students wishing to enroll in the Latin American Studies Major must meet the admission requirements of the Faculty of Social Sciences, as doing so will simultaneously meet the requirements of the other two Faculties. For the Faculty of Social Sciences admission requirements see the Faculty of

Social Sciences section of this Calendar.

Requirements

- Successful completion of an approved program equivalent to twenty full courses.
 - A minimum grade point average of 2.00 must be achieved over all twenty courses.
 - Not more than five full "D" or "D+" grades will be allowed in the twenty courses.
 - Not more than one full "D" or "D+" grade in the Major field.

- Not more than ten of the twenty full courses can be transferred from other institutions and counted toward the degree.

At least half the courses counting toward the Major must be taken at the University of Calgary.

- Successful completion of at least seven full-course equivalents in the Major field (see below).
- At least two full-course equivalents in Area III; of these at least one full-course equivalent must be from the Faculty of Science. (See course classification in the Social Sciences section of this Calendar.)
- At least twelve full-course equivalents numbered 300 or above.
- Successful completion of General Studies 300.
- A maximum of six full-course equivalents may be taken from outside the Faculties of Communication and Culture, Humanities, Science and Social Sciences. A maximum of one full-course equivalent activity course (Dance Education Activity/Theory, Outdoor Pursuits Activity/Theory, and Physical Education Activity/Theory) may be counted toward the degree program requirements.

Major Field

The requirements for the Major Field (item 3 above) will be composed of the following:

(a) Latin American Studies Courses

Latin American Studies 201, 203, 301*, 303, 401, 501

**Possible exemptions from this course may be obtained for health or financial reasons. Students unable to participate in this course must make up the field study requirement with an advanced seminar in their major area of concentration.*

(b) Language Component

Two full-course equivalents in either Spanish or Portuguese.

(c) Option Courses

A minimum of two full-course equivalents and not more than five full-course equivalents chosen from the following options. The courses are grouped by Faculty for convenience. If they so

choose, students may specialize in a language, literature and culture stream (Humanities and Social Sciences), or in contemporary issues stream (Communication and Culture, Haskayne School of Business, Social Sciences and Social Work). However, students are free to choose any combination of courses from the following options.

Faculty of Communication and Culture

Development Studies 375, 393

Haskayne School of Business

Directed study courses with Haskayne School of Business professors

Faculty of Humanities

Spanish 421 OR 423, 433, 441*, 471*, 473*, 475*, 499*, 555, 571*, 599*

**When focused on Latin-American topics*

Faculty of Nursing

Directed study courses with Nursing professors

Faculty of Social Sciences

Note that some courses have prerequisites or require consent of the Department.

Anthropology 321, 405, 421

Archaeology 341, 343, 345, 347, 351, 353, 355, 357, 503, 511, 553 (History 553)

Economics 327, 337

Geography 371, 425, 463

History 207, 365, 367, 391 (Political Science 391), 415, 467, 469, 471, 487, 499, 553 (Archaeology 553), 565, 569

Political Science 359, 391 (History 391), 473, 579

Faculty of Social Work

Directed study courses with Social Work professors

Regulations Governing Progress through the Program

Students in the Latin American Studies Major are governed by the Academic Regulations of the Faculty of Social Sciences as well as the Academic Regulations section of this Calendar. Upon admission to the Latin American Studies Major, students are strongly recommended to have their course selections approved by the Director of the Latin American Studies program. Students are advised to read and carefully consider all regulations, and in case of doubt as to the precise meaning of any statement or regulation, to consult with the Director of the Latin American Studies program or the Associate Dean (Student Affairs) of one of the three Faculties (Communication and Culture, Humanities or Social Sciences).

Minor in Transportation Science

Program Notes

Director: N.M. Waters

Telephone: (403) 220-6398

E-mail: nwaters@ucalgary.ca

Introduction

The minor in Transportation Science is offered collaboratively by the Faculties of Engineering and Social Sciences, and the Van Horne Institute. It seeks to prepare students to embark upon or advance in careers in transportation-related fields. The mandatory, core courses will provide the student with a mix of theory and practice. The student will learn transportation theory in a formal lecture setting and will then be required to apply this knowledge to practical problems in the transportation industry in conjunction with the support of the Van Horne Institute for International Transportation and Regulatory Affairs.

Admission

Application for admission to the Social Sciences Minor in Transportation Science can be made to the Faculty of Social Sciences. Prior to applying for admission, students must have completed Geography 203 and obtained a grade point average of at least 2.70 over the most recent course work to a maximum of five full-course equivalents (University of Calgary courses and/or transferable courses taken at other institutions). All grades within a session will be included except where the number of courses taken within a session exceeds that required to fulfill (to a maximum of) five full-course equivalents, in which case the highest grades will be used. Admission to the program may have to be limited. If applications exceed spaces, students will be admitted in order of descending GPA. The application deadline is March 1.

Requirements

For the Minor in Transportation Science within the Faculty of Social Sciences, the Social Sciences student must take 10 half courses composed of:

- (i) Transportation Science 301, 473 (Civil Engineering 473), 499, 599, and
- (ii) Six half courses selected from the following:

Economics 201, 203, 305, 307, 311, 315, 365, 371, 377, 419, 475, 477 575

Geography 203, 321, 339, 341, 351, 421, 439, 441, 447, 451, 529, 547, 599

Political Science 357, 447

Psychology 369, 425

Sociology 345, 353

Urban Studies 201, 451, 591

Operations Management 401, 405

Civil Engineering 575

Other Requirements

Transportation Science 301 and 473 will be taken in the second and third years of the program. They will be lecture courses providing the unifying structure to the topic and will cover a common core of transportation – related subject material. Transportation Science 499[TRAN499] and 599 will be taken in the third and fourth years of the program, respectively. They will provide the exposure to practical issues and will contain topics including: transportation planning, transportation policy and regulation, information technology, geographic information systems and logistics. The other six half courses may be taken at any time during the program, as permitted by the timing of prerequisites. It is strongly recommended to take two foundation courses (Geography 341 and Economics 371) as part of the courses leading to the Minor in Transportation Science.

Students should consult the Transportation Minor advisor in the Department of Geography regarding selection of courses for the Minor.

