



PROGRAM PLANNING GUIDE

ID:

Name: _____

Bachelor of Science / Bachelor of Education

Mathematics / Mathematics Education



As an Education major, a student develops a strong knowledge base in the subject area they intend to teach. They also receive in-depth preparation in how to teach, including both general and subject area instructional methods.

As a mathematics student you have the opportunity to study both pure mathematics and applied mathematics, and you are given the opportunity to see the real-world application of your textual studies.

What determines my program requirements?

Please refer to the Academic Calendar (www.ulethbridge.ca/ross/academic-calendar) for complete program information.

Calendar Year: 2024/2025 - Your calendar year is set to the academic year you are admitted (or readmitted) and you should follow the requirements for that year for the duration of your program.

Faculty/School: Faculty of Arts and Science (www.ulethbridge.ca/artsci) and Faculty of Education (www.ulethbridge.ca/education)

Program(s): Bachelor of Science / Bachelor of Education

Major(s): Mathematics / Mathematics Education

Minor: A defined set of courses, designed to provide depth in a particular discipline, study in an interdisciplinary area, or focus on a theme-related topic. To learn more about optional minors see www.ulethbridge.ca/ross/minors.

Am I admissible to this program?

Admission: www.ulethbridge.ca/ross/admissions/undergrad

Transfer: www.ulethbridge.ca/ross/transfer-resources

When/How do I apply to the University?

Deadlines: www.ulethbridge.ca/ross/admissions/undergrad/deadlines

Step-by-Step: www.ulethbridge.ca/ross/admissions/step-by-step

Where can I find information on courses?

Course Catalogue: www.ulethbridge.ca/ross/courses

Registration Guide: www.ulethbridge.ca/ross/registration-guide

When can I register for classes?

Register early! (March for Summer and Fall; November for Winter)

Registration Dates: www.ulethbridge.ca/ross/registration-dates

How can I enhance my program?

Career Bridge: www.ulethbridge.ca/career-bridge

Education Specializations:

www.ulethbridge.ca/education/programs-degrees/undergraduate-studies/specializations

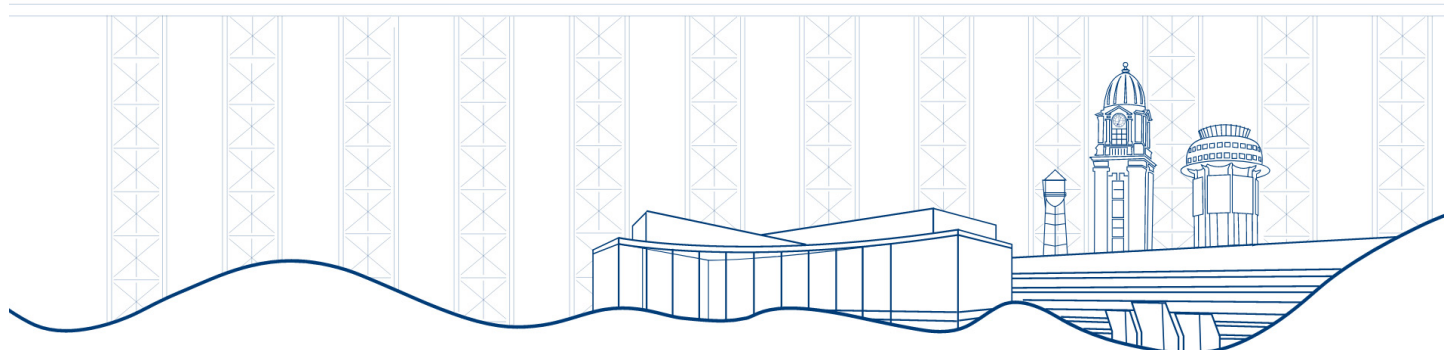
What supports are available to students?

Student Services: www.ulethbridge.ca/campus-life/student-services

Student Success Centre: www.ulethbridge.ca/student-success-centre

Accessible Learning: www.ulethbridge.ca/ross/alc

Counselling Services: www.ulethbridge.ca/counselling





Required courses and notes

Students begin in the Faculty of Arts and Science where they progress toward completion of Faculty of Arts and Science degree requirements, and prepare to meet the admission requirements for the Faculty of Education. Please note that completion of admission requirements does not guarantee admission to the Faculty of Education.

Major Requirements (14 Courses)

- _____ 1. Computer Science 1620 - Fundamentals of Programming I
- _____ 2. Mathematics 1410 - Elementary Linear Algebra
- _____ 3. Mathematics 2000 - Mathematical Concepts
- _____ 4. Mathematics 3400 - Group and Ring Theory
- _____ 5. Mathematics 3500 - Analysis I
- _____ 6. Statistics 1770 - Introduction to Probability and Statistics
- _____ 7. ¹ Statistics 2780 - Statistical Inference
- _____ 8. **One of:**
 - _____ Mathematics 1560 - Calculus I
 - _____ Mathematics 1565 - Accelerated Calculus I (recommended)
- _____ 9. **One of:**
 - _____ Mathematics 2560 - Calculus II
 - _____ Mathematics 2565 - Accelerated Calculus II (recommended)
- _____ 10.-11. **One of the following Streams (a. or b.):**
 - a. Standard Stream**
 - _____ Mathematics 2570 - Calculus III
 - _____ Mathematics 2580 - Calculus IV
 - b. Accelerated Stream**
 - _____ Mathematics 2575 - Accelerated Calculus III (recommended)
 - _____ One additional course (3.0 credit hours) in Mathematics, Statistics, or Computer Science at the 2000 level or above
- _____ 12. **One of:**
 - _____ Mathematics 3200 - Geometry
 - _____ Mathematics 3461 - Elementary Number Theory
 - _____ Mathematics 3860 - Combinatorics
- _____ 13. One additional course (3.0 credit hours) in Mathematics or Statistics at the 2000 level or above
- _____ 14. One additional course (3.0 credit hours) in Mathematics or Statistics at the 3000/4000 level

Notes

¹ One course (3.0 credit hours) in Mathematics at the 3000/4000 level may replace Statistics 2780 in the list of required courses.

Faculty of Education Admission

To be considered for admission to the Faculty of Education, successful completion of the following is required:

- 14 graded term courses (42.0 credit hours).
- **Education Admission GPA:** Minimum cumulative grade point average of 2.50 on all U of L and transferable courses taken within the terms containing the last 14 courses (42.0 credit hours). All courses must be graded.
- Minimum of five courses (15.0 credit hours) in the major.
- **Major GPA:** Minimum cumulative grade point average of 2.50 on all graded courses comprising the major, including all transferable courses.
- Credit in Education 2500 - Orientation to Teaching (or equivalent) prior to the fall program intake, including a favourable recommendation from the instructor.

Students are advised to contact Student Program Services in the Faculty of Education (edu.sps@uleth.ca; TH421; tel. 403-329-2254) for guidelines regarding the requirements stated above. For specific information on admission requirements, please refer to the Combined Degrees section of the Academic Calendar: www.ulethbridge.ca/ross/academic-calendar.

Students of Indigenous descent, and students with a significant shift in academic performance, are advised to refer to the current Calendar for the Faculty of Education's Special Case Admission policies.

Independent Study (1990, 2990, 3990, 4990) or Applied Study (2980, 3980, 4980) courses may not be used to meet the minimum Mathematics or Statistics course requirements above, except for the additional course for students completing the accelerated calculus stream. Mathematics 2090 (Number Systems) may not be used to meet any requirements for the major.

Other Courses (minimum 16 courses)

Courses offered by the Faculty of Arts and Science, Faculty of Fine Arts, or School of Liberal Education only (no courses labelled ABHL, ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, HLSC, HRLR, IGBM, IMGT, MGT, MKTG, NURS, PUBH, or TREC unless cross-listed with a course from one of the above faculties).

- _____ 15.-30. Sixteen additional courses (48.0 credit hours) chosen to complete program requirements
 - _____ 15. _____
 - _____ 16. _____
 - _____ 17. _____
 - _____ 18. _____
 - _____ 19. _____
 - _____ 20. _____
 - _____ 21. _____
 - _____ 22. _____
 - _____ 23. _____
 - _____ 24. _____
 - _____ 25. _____
 - _____ 26. _____
 - _____ 27. _____
 - _____ 28. _____
 - _____ 29. _____
 - _____ 30. _____

Education Requirements (20-course equivalent)

- _____ 31. Education 2500 - Orientation to Teaching (3.0 credit hours)
- _____ 32.-36. Professional Semester I (15.0 credit hours)
- _____ 37.-41. Professional Semester II (15.0 credit hours)
- _____ 42.-46. Professional Semester III (15.0 credit hours)
- _____ 47. Education Foundation (3.0 credit hours) at the 43xx level
- _____ 48.-50. Three Education Electives (9.0 credit hours) at the 3000 or 4000 level
 - _____ 48. _____
 - _____ 49. _____
 - _____ 50. _____



Required courses and notes

Liberal Education List Requirement

Only four courses (12.0 credit hours) in total may be counted from any one discipline toward the Lib Ed Requirement. Disciplines are identified by separate course subject codes. Cross-listed courses count toward the limit for both disciplines (e.g. IGBM 3250/INDG 3250 counts toward the limit for Dhillon School of Business courses and Indigenous Studies).

Only four courses (12.0 credit hours) in total from the Faculty of Education (EDUC), Faculty of Health Sciences (ABHL, ADCS, HLSC, NURS, PUBH, and TREC), and the Dhillon School of Business (ACCT, AGEM, FINC, HRLR, IGBM, IMG, MGT, and MKTG) may be counted towards the Lib Ed Requirement.

To determine if a course has a Liberal Education designation, see School of Liberal Education in the 2024/2025 University of Lethbridge Undergraduate Calendar, www.ulethbridge.ca/ross/academic-calendar.

1.-4. List I: Fine Arts and Humanities

- _____ 1. _____
- _____ 2. _____
- _____ 3. _____
- _____ 4. _____

5.-8. List II: Social Science

- _____ 5. _____
- _____ 6. _____
- _____ 7. _____
- _____ 8. _____

9.-12. List III: Science

- _____ 9. _____
- _____ 10. _____
- _____ 11. _____
- _____ 12. _____

General Requirements

Bachelor of Arts or Bachelor of Science

_____ A minimum of 30 courses (90.0 credit hours) from disciplines offered by the Faculty of Arts and Science, Faculty of Fine Arts, or School of Liberal Education with a GPA of at least 2.00 (on the University of Lethbridge 4.0 scale).

_____ A maximum of three Independent Study courses (9.0 credit hours) may be completed for credit toward the degree.

_____ A maximum of three Disciplinary Credit Applied Studies courses (9.0 credit hours) may be completed for credit towards the degree. Students may, in addition, complete Applied Studies 2000, 2001, 2010, and 2011.

_____ A maximum of 17 courses (51.0 credit hours) may be completed from any one discipline (see **Faculty of Arts and Science** in the 2024/2025 University of Lethbridge Calendar, www.ulethbridge.ca/ross/academic-calendar). Disciplines are identified by a specific course label (e.g. KNES, ASTR, and HIST are separate disciplines).

_____ A maximum of 6.0 credit hours in Activity courses (i.e. courses labelled PHAC and MUSE) may be completed for credit towards the degree, except for Kinesiology majors (not more than 15.0 credit hours) and Music majors (not more than 12.0 credit hours).

_____ Residence requirement: a minimum of 15 courses (45.0 credit hours) offered by the Faculty of Arts and Science, Faculty of Fine Arts, or School of Liberal Education must be completed at the University of Lethbridge. At least half of the courses required in the major must be completed at the University of Lethbridge.

A **maximum** of 10 courses (30.0 credit hours) may be completed at the 1000 level (or lower) for credit towards the degree, excluding Activity courses (labelled PHAC and MUSE) and courses numbered in the range of 0520 to 0530.

1.-10. Introductory Course Limit

- _____ 1. _____
- _____ 2. _____
- _____ 3. _____
- _____ 4. _____
- _____ 5. _____
- _____ 6. _____
- _____ 7. _____
- _____ 8. _____
- _____ 9. _____
- _____ 10. _____

A **minimum** of 10 courses (30.0 credit hours) from disciplines offered by the Faculty of Arts and Science, Faculty of Fine Arts, or School of Liberal Education at the 3000/4000 level, excluding Activity courses (labelled PHAC and MUSE). Out-of-faculty courses (i.e. labelled ABHL, ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, HLSC, HRLR, IGBM, IMG, MGT, MKTG, NURS, PUBH, and TREC) will not meet this requirement.

1.-10. Senior Course Requirement

- _____ 1. _____
- _____ 2. _____
- _____ 3. _____
- _____ 4. _____
- _____ 5. _____
- _____ 6. _____
- _____ 7. _____
- _____ 8. _____
- _____ 9. _____
- _____ 10. _____

Bachelor of Education

_____ Completion of the equivalent of 20 courses (60.0 credit hours) in Education

_____ Maintenance of a program grade point average of at least 2.50 in Education courses and the appropriate major.

_____ Residence requirement: a minimum of 15 courses (45.0 credit hours) offered by the Faculty of Education must be completed at the University of Lethbridge.

Optional Education Minor: _____

For information about Education Minors, see **Minors for Education Programs**, www.ulethbridge.ca/ross/minors.

Consult with an Academic Advisor if you wish to add a minor to your program.

1.-6. Required Courses

- _____ 1. _____
- _____ 2. _____
- _____ 3. _____
- _____ 4. _____
- _____ 5. _____
- _____ 6. _____ *(Education methods req.)*



Recommended Course Sequence

Shown below is the recommended sequence of courses for your degree. Consult timetables for course offerings, prerequisites, and corequisites before registering each term as some courses may have limited offerings (ie. once a year, alternating years, or only offered in the Fall or Winter terms).

Consult with an Academic Advisor in your faculty if you wish to alter this sequence with regard to the specifically listed courses.

Note that this sequence was prepared based on course scheduling at the time of publication and may change during your studies.

First Year

Computer Science 1620

Mathematics 1410

One of: **Mathematics 1565** or **Mathematics 1560**

Mathematics 2000

One of: **Mathematics 2565** or **Mathematics 2560**

Statistics 1770

Lib Ed Requirement course

Lib Ed Requirement course

Lib Ed Requirement course

Lib Ed Requirement course

Second Year

One of: **Mathematics 2570** or **Mathematics 2575**

One of: Mathematics 2580 or additional MATH, STAT, CPSC

Statistics 2780

One of: Mathematics or Statistics elective

Lib Ed Requirement course

Lib Ed Requirement course

Lib Ed Requirement course

Lib Ed Requirement course

Elective

Education 2500

Admission to the Faculty of Education

Education 2500 must be completed (with a Pass Recommend) before admission. It may be taken in the winter or summer term immediately prior to the fall intake

Third Year (Fall)

Professional Semester I (15.0 credit hours)

Curriculum and Instruction, Educational Psychology, Language in Education,

Assessment and Learning, Teaching Seminar, Indigenous Education

Practicum - Equivalent to 125 hours in a school

Third Year (Winter)

Mathematics 3500

One of: Mathematics or Statistics 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective

Fourth Year (Fall)

Mathematics 3400

Mathematics list course

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Fourth Year (Winter)

Professional Semester II (15.0 credit hours)

Principles of Curriculum and Instruction for Majors, The Educational Psychology

of Exceptional Learners, Social Context of Schooling, Evaluation and Reporting

Practicum - Equivalent to 150 hours in a school

Elementary Education students will reverse the Fifth Year fall and winter terms and complete PS III in the winter.

Fifth Year (Fall)

Professional Semester III (15.0 credit hours)

Internship - Students are assigned to schools for approximately 200 hours in a

practicum and assume full responsibility for a classroom for approximately one-

half of that time

Fifth Year (Winter)

Education Foundation course (43xx)

Education elective 3000/4000 level

Education elective 3000/4000 level

Education elective 3000/4000 level

Elective 3000/4000 level

Note: Courses in bold in Years 1 and 2 of the sample sequence are prerequisite(s) for required courses and should be completed early in your program.

Students are advised to review the prerequisites for elective courses within the major and plan accordingly.

There are two main paths to complete the required calculus sequence:

- Accelerated Stream: MATH 1565-2565-2575

- Regular Stream: MATH 1560-2560-2570-2580

Both streams cover the same material, the accelerated stream covers it more quickly thereby allowing students to progress deeper into the Mathematics program sooner. The accelerated stream is recommended for any student who did well in high school calculus (Mathematics 31 or equivalent), or otherwise feels confident in their ability to handle the higher pace of the material. Please contact the Department of Mathematics and Computer Science if you are unsure which stream to take.