



PROGRAM PLANNING GUIDE

Name: _____

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Bachelor of Science

Remote Sensing



Remote sensing provides a new vantage point to marvel, monitor and measure our world. With the advent of Earth observation and satellite technology, we are now able to view the planet — and our impact upon it — in real-time digital imagery. As a remote sensing student, you will study geography, environmental science and physics, as well as other topics focused on the field. You will also learn to record and interpret images using highly-specialized instruments, some of which are unique to the B.Sc. in remote sensing at the University of Lethbridge.

What determines my program requirements?

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

Calendar Year: 2025/2026 - 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)

Program(s): Bachelor of Science

Major(s): Remote Sensing

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

Co-op Education: www.ulethbridge.ca/career-bridge/co-operative-education

Honours Thesis: www.ulethbridge.ca/ross/undergraduate-thesis

Double Major: www.ulethbridge.ca/ross/double-major

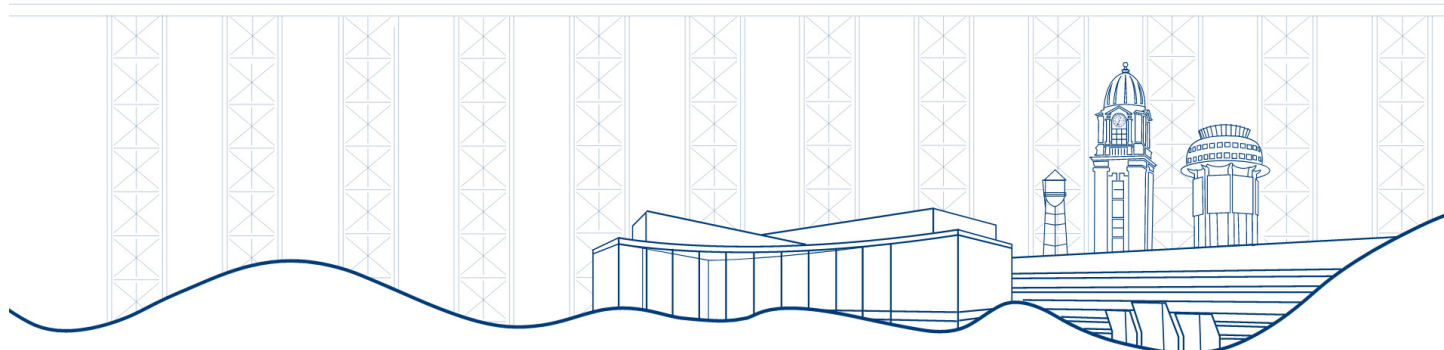
What supports are available to students?

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



Version: February 11, 2025

Contact an Academic Advisor (www.ulethbridge.ca/ross/academic-advising) for advising information

This is a planning guide and not a graduation check or guarantee of course offerings. You should have a program check done in your final year of studies. Students are responsible for ensuring they have met program requirements. This guide should be used in conjunction with the University of Lethbridge Academic Calendar, which is the final authority on program requirements and academic regulations.



PROGRAM REQUIREMENTS (2025/2026)

Required courses and notes

Major Requirements (21 Courses)

- ____ 1. Computer Science 1620 - Fundamentals of Programming I
- ____ 2. Geography 1000 - Introduction to Physical Geography
- ____ 3. Geography 2030 - Geomorphology
- ____ 4. Geography 2300 - Weather and Climate
- ____ 5. Geography 2700 - Geographical Data and Analysis
- ____ 6. Geography 2735 - Introduction to Geographical Information Science
- ____ 7. Geography 3720 - Remote Sensing
- ____ 8. Geography 4725 - Advanced Remote Sensing
- ____ 9. Mathematics 1410 - Elementary Linear Algebra
- ____ 10. Physics 2000 - Introduction to Physics II
- ____ 11. Physics 2120 - Introduction to Physics III
- ____ 12. Physics 2130 - Waves, Optics and Sound
- ____ 13. Physics 2925 - Introduction to Experimental Physics
- ____ 14. Physics 3650 - Optics
- ____ 15. Remote Sensing 4650 - Physics of Remote Sensing
- ____ 16. **One of:**
 - ____ Geography 4710 - Remote Sensing Field Techniques
 - ____ Geography 4751 - Spatial Modelling
 - ____ Geography 4753 - Seminar in Remote Sensing
- ____ 17. **One of:**
 - ____ Mathematics 1560 - Calculus I
 - ____ Mathematics 1565 - Accelerated Calculus I (recommended)
- ____ 18. **One of:**
 - ____ Mathematics 2560 - Calculus II
 - ____ Mathematics 2565 - Accelerated Calculus II (recommended)
- ____ 19.-20. **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
- ____ 21. **One of:**
 - ____ Physics 1000 - Introduction to Physics I
 - ____ Engineering 2060 - Engineering Mechanics

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Electives (19 Courses)

- ____ 22.-40. Nineteen additional courses (57.0 credit hours) chosen to complete program requirements

- ____ 22. _____
- ____ 23. _____
- ____ 24. _____
- ____ 25. _____
- ____ 26. _____
- ____ 27. _____
- ____ 28. _____
- ____ 29. _____
- ____ 30. _____
- ____ 31. _____
- ____ 32. _____
- ____ 33. _____
- ____ 34. _____
- ____ 35. _____
- ____ 36. _____
- ____ 37. _____
- ____ 38. _____
- ____ 39. _____
- ____ 40. _____



PROGRAM REQUIREMENTS (2025/2026)

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 (ADCS, HLSC, INHL, NURS, PUBH, and TREC), and the Dhillon School of Business (ACCT, AGEM, FINC, GLBU, HRLR, IGBM, 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 2025/2026 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

- _____ A minimum of 40 courses (120.0 credit hours) with a GPA of at least 2.00.
- _____ A maximum of five Independent Study courses (15.0 credit hours) may be completed for credit towards the degree.
- _____ A maximum of five Disciplinary Credit Applied Studies courses (15.0 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 24 courses (72.0 credit hours) may be completed from any one discipline for credit towards the degree. 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).
- _____ A maximum of six courses (18.0 credit hours) from disciplines offered outside the Faculty of Arts and Science, Faculty of Fine Arts, or School of Liberal Education may be completed for credit towards the degree (i.e. labelled ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, GLBU, HLSC, HRLR, IGBM, INHL, MGT, MKTG, NURS, PUBH, and TREC). Courses cross-listed between the Faculty of Arts and Science and another Faculty or School do not count towards this limit.
- _____ Residence requirement: a minimum of 20 courses (60.0 credit hours) must be completed at the University of Lethbridge, including at least 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. At least half of the courses required in the major must be completed at the University of Lethbridge.

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A **maximum** of 12 courses (36.0 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.-12. Introductory Course Limit

- _____ 1. _____
- _____ 2. _____
- _____ 3. _____
- _____ 4. _____
- _____ 5. _____
- _____ 6. _____
- _____ 7. _____
- _____ 8. _____
- _____ 9. _____
- _____ 10. _____
- _____ 11. _____
- _____ 12. _____

A **minimum** of 15 courses (45.0 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 ACCT, ADCS, AGEM, CDEV, CRED, EDUC, FINC, GLBU, HLSC, HRLR, IGBM, INHL, MGT, MKTG, NURS, PUBH, and TREC) will not meet this requirement.

1.-15. Senior Course Requirement

- _____ 1. _____
- _____ 2. _____
- _____ 3. _____
- _____ 4. _____
- _____ 5. _____
- _____ 6. _____
- _____ 7. _____
- _____ 8. _____
- _____ 9. _____
- _____ 10. _____
- _____ 11. _____
- _____ 12. _____
- _____ 13. _____
- _____ 14. _____
- _____ 15. _____

Optional Minor:

For information about minors see **Minors** in the 2025/2026 University of Lethbridge Calendar, www.ulethbridge.ca/ross/academic-calendar. 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. _____



RECOMMENDED SEQUENCING PLAN (2025/2026)

Recommended Course Sequence

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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

Geography 1000

Computer Science 1620

Geography 2735

Mathematics 1410

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

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

Physics 1000

Physics 2000

Lib Ed Requirement course

Lib Ed Requirement course

Second Year

Geography 2030

Geography 2300

Geography 2700

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

One of: **Mathematics 2580** or an additional course in MATH

Physics 2120

Physics 2130

Lib Ed Requirement course

Lib Ed Requirement course

Lib Ed Requirement course

Third Year

Geography 3720

Physics 2925

Physics 3650

Lib Ed Requirement course

Lib Ed Requirement course

Lib Ed Requirement course

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective

Fourth Year

Remote Sensing 4650

One of: Geography 4710, Geography 4751, or Geography 4753

Geography 4725

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

Elective 3000/4000 level

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.