

**Faculty of Science Course Syllabus – 2026–2027**  
**Department of Earth and Environmental Sciences**  
*ENVS 4901 and 4902 / EARTH 4201 and 4202*  
*Honours Thesis and Research Project*

**Coordinator:** Djordje Grujic [dgrujic@dal.ca](mailto:dgrujic@dal.ca) LSC 3045

**Lectures:** Mondays, 17:35—20:25 LSC-COMMON AREA C234

**Consultations:** By appointment; course information in Brightspace

---

### **Course Description**

*The class meets regularly to coordinate research projects and honours theses, monitor progress, and develop written and oral scientific communication. The cohort has 17 undergraduate students with individual project supervisors.*

*ENVS 4901 and ENVS 4902 / EARTH 4201 and 4202 The Honours Thesis provides an independent research experience, taking a focused question through a defensible investigation to a written thesis and oral defence. Each course is worth 3 credit hours; both must be completed in consecutive terms, with the final grade recorded after the second course.*

*ERTH 4101 and 4102 The Research Project allows students outside an Honours program to conduct supervised research and write a report. Each course is worth 3 credit hours; both must be completed in consecutive terms. The Honours Qualifying Examination requirement applies to Honours candidates.*

*Honours Qualifying Examination (HQE) The oral presentation and defence is graded separately from the thesis/course grade. Honours requires at least B– on the HQE; First Class Honours requires at least A–, together with the applicable degree and programme requirements. The proposed format is 15 minutes of presentation and 15 minutes of questions per student. The Department will confirm the examining arrangements and timetable.*

### **Course Prerequisites**

Students must arrange a supervisor and obtain departmental project approval. Honours candidates must apply for programme admission and confirm eligibility with an Earth Sciences Academic Advisor. EARTH 4102 requires EARTH 4101. Credit exclusions are EARTH 4100.06 for the 4101/4102 pair and EARTH 4200.06 for the 4201/4202 pair.

Programme GPA, course and degree requirements are governed by the applicable Academic Calendar and entry-year rules. Consult the [Earth Sciences programme requirements](#)

Course registration details: [2026–27 Earth Sciences course calendar](#)

## **Course Objectives/Learning Outcomes**

### *Aim and Scientific Level of the Thesis*

*Thesis topics: a concise, rigorous account of an investigation conducted by the student. Projects may collect new evidence, analyse existing data, develop or evaluate a model, or provide an approved critical synthesis. The question, methods, scope and expected contribution must be agreed with the supervisor.*

*Purpose: Develop a feasible research question; evaluate relevant literature; select and justify methods; analyse evidence; distinguish observation from interpretation; evaluate uncertainty; and present defensible conclusions in writing and orally.*

*Quantity and quality: The thesis should exceed a term paper in the depth of investigation and quality of argument. Publication is not required. Quality depends on the question, methods, evidence, reasoning and communication, rather than the number of pages or the size of the dataset.*

*Timeframe for research: Scope the work to the 2026–27 academic year and the agreed milestones. Plan time for access, training, approvals, analysis, feedback and revision. Agree a feasible fallback if sampling, equipment, permissions or data access are delayed.*

*Accessibility: Write for a scientifically literate reader who is not a specialist in the project. Define technical terms and make figures, tables, maps and captions clear and interpretable.*

## **Responsibilities**

Student: carry out the agreed research; take responsibility for the content, analysis, writing and rigour of the work; maintain research records; meet deadlines; and report obstacles promptly.

Supervisor: guide scope and methods; oversee project implementation, training, access, safety and required approvals; agree a realistic work plan and budget; and provide substantive feedback. Project-specific scientific decisions belong with the student and supervisor.

Coordinator: communicate course milestones and common standards, monitor progress across the cohort, teach shared research and communication skills, coordinate assessment and the HQE, and help resolve course or supervisory process problems.

## **Required Course Materials**

- *Textbook: no compulsory textbook. Selected readings will be identified in Brightspace.*
- *Research materials: project-specific readings, data, software and equipment agreed with the supervisor.*
- *Course website: Brightspace for materials, assignment instructions, confirmed dates and submissions.*

Schwab et al. (2022). [Ten simple rules for good research practice](#)

Carey, Steiner and Petri (2020). [Ten simple rules for reading a scientific paper](#)

Wilson et al. (2017). [Good enough practices in scientific computing](#)

Optional book: Booth et al. (2024). [The Craft of Research, 5th edition](#)

## Course Assessment

Proposed assessment: written thesis 100% of the course grade, subject to departmental confirmation before adoption. The HQE is assessed separately for Honours candidates.

| Component                                                                                                                                                                                                | Weight (% of final grade) | Date                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------|
| <ul style="list-style-type: none"> <li>Attend and participate, complete preparatory assignments (each 2 %), give progress presentations (each 2%), and submit drafts and revisions (each 2%).</li> </ul> | 20% (proposed)            | Mondays, 16:00       |
| <ul style="list-style-type: none"> <li>Written Thesis</li> </ul>                                                                                                                                         | 80% (proposed)            | 29 March 2027, 16:00 |

Proposed thesis rubric (percentages are points out of the final thesis mark):

|                                   |                                                                                                                                                               |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1) Content</u>                 | <u>70%</u>                                                                                                                                                    |
| 10                                | Abstract and Concluding Statement (have the intentions set out in the Introduction been carried through?)                                                     |
| 10–20                             | Introduction: clear purpose and scope; critical literature review; balanced and relevant sources.                                                             |
| up to 5                           | Were techniques used appropriate and well understood?                                                                                                         |
| up to 15                          | Results: accurate, traceable evidence, including relevant data tables and field, sample or petrographic descriptions.                                         |
| 20–30                             | Synthesis/Discussion: justified interpretation, logical argument, alternatives and uncertainty, original thought, and conclusions supported by evidence.      |
| 5–10                              | Illustrations: quality, clarity and effectiveness in communicating the work.                                                                                  |
| <u>2) Organisation and Format</u> | <u>10%</u>                                                                                                                                                    |
| •                                 | Are internal headings and structural paragraphs well used?                                                                                                    |
| •                                 | Does the thesis have an appropriate table of contents and lists of figures and tables where needed?                                                           |
| •                                 | Degree to which internal layout of text, tables, illustrations, captions and references conforms to acceptable practices (not including typographical errors) |
| <u>3) Scientific Writing</u>      | <u>20%</u>                                                                                                                                                    |
| 10                                | Use of grammar and vocabulary; spelling and typographical correctness                                                                                         |
| 10                                | Scientific style (clarity, precision, conciseness, objectivity, separation of description and interpretation)                                                 |

If adopted, agree the variable Content subweights with the supervisor and submit them to the coordinator by Monday, 22 February 2027. They must total 70 points, with 10 for Organisation and Format and 20 for Scientific Writing. The coordinator confirms the allocation before assessment.

## Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

|             |            |            |   |         |
|-------------|------------|------------|---|---------|
| A+ (90-100) | B+ (77-79) | C+ (65-69) | D | (50-54) |
| A (85-89)   | B (73-76)  | C (60-64)  | F | (<50)   |
| A- (80-84)  | B- (70-72) | C- (55-59) |   |         |

## **Course Policies**

### Thesis

Proposed submission targets are Monday 1 March 2027 for a complete draft to the supervisor, Monday 29 March 2027 at 16:00 for the thesis submitted for assessment, and Monday 26 April 2027 at 16:00 for the corrected final thesis. Confirmed dates, submission routes, file requirements and assessment arrangements will be posted in Brightspace in January 2027.

The thesis should normally contain an abstract; an introduction with the research question and literature context; justified methods; results or findings; discussion of meaning, uncertainty and limitations; conclusions; references; and appropriate supporting material. Adapt the structure to the approved project and departmental formatting requirements.

A complete draft contains all planned chapters, figures, tables and references, with any remaining gaps clearly identified. Agree on supervisor feedback and revision time well before the assessed submission.

### Attendance, delays and extensions

Notify the coordinator promptly about missed course activities and contact the supervisor about research delays. Request any extension before the deadline where possible. Extensions, accommodations, absence declarations and consequences of late submission follow the confirmed course rules and applicable University policies.

The course-specific late-submission rules, missed-presentation arrangements and any use of the Student Declaration of Absence must be confirmed before this syllabus is issued and posted in Brightspace.

### Scientific standards

Work must use defensible methods and reasoning, support claims with traceable evidence, distinguish the student's contribution from prior work, and meet standards of clear scientific communication. Fabricated or falsified data, plagiarism and other suspected academic misconduct are handled through University processes.

### Research records, safety and permissions

Maintain dated notes, source records, data descriptions, analysis files and versioned drafts, with secure backups. Agree field and laboratory safety, permits, licences, confidentiality and data access with the supervisor before beginning the relevant work. Research involving humans requires the appropriate review and approval before it begins; consult [Dalhousie Human Research Ethics](#)

### Production Expenses

Agree research, analytical, field, software and any printing costs with the supervisor before incurring expenses. Confirm available funding and reimbursement procedures. Do not assume that a project cost will be reimbursed without prior agreement.

### Archiving

Submit the corrected thesis and any departmental copyright or repository forms through the confirmed departmental process. Provide supporting data and code as required and permitted by consent, confidentiality, licences and data agreements. Confirm any public-release restrictions with the supervisor and coordinator.

## Course Content and Schedule

Meetings take place on Mondays. Each session has three 45-minute blocks, used primarily for student presentations and discussion. Coordinator lectures normally occupy one block and no more than two. The introduction has a 45-minute core and optional activities extending it to 90 minutes.

The course plan and submission dates below are proposed. Confirmed dates and instructions will be posted in Brightspace. Student presentation rosters will distribute the 16 students across suitable sessions.

### Fall Term 2026

| Monday              | Course plan                                                |
|---------------------|------------------------------------------------------------|
| <b>14 September</b> | Course introduction and cohort introductions               |
| <b>21 September</b> | Written assignment 1: research process                     |
| <b>28 September</b> | Lecture Research questions and hypotheses - <b>Virtual</b> |
| <b>5 October</b>    | Written assignment 2: aims and objectives                  |
| <b>12 October</b>   | Thanksgiving holiday — no class                            |
| <b>19 October</b>   | Lecture: Graduate studies information session – in person  |
| <b>26 October</b>   | Written assignment 3: methods                              |
| <b>2 November</b>   | Literature: Searches and citations - <b>Virtual</b>        |
| <b>9 November</b>   | Fall study break, 9–13 November — no class                 |
| <b>16 November</b>  | Lecture: Figures, graphs and maps                          |
| <b>23 November</b>  | Project clinic and student progress presentations          |
| <b>30 November</b>  | Assignment 4, Oral presentation 1: initial evidence        |
| <b>7 December</b>   | Lecture: Ethical research and end-of-term planning         |

University term dates and teaching-day changes: [Dalhousie Important Dates](#)

## Course Content and Schedule

Winter Term 2027

| Monday      | Course plan and proposed targets                                                                                   |
|-------------|--------------------------------------------------------------------------------------------------------------------|
| 11 January  | Lecture: Research presentations and presentation skills                                                            |
| 18 January  | Assignment 5, Written assignment 4: detailed table of contents                                                     |
| 25 January  | Conference abstract presentations                                                                                  |
| 1 February  | Assignment 6: Conference talk practice                                                                             |
| 8 February  | Assignment 7: Student progress presentations                                                                       |
| 15 February | Winter study break, 15–19 February — no class                                                                      |
| 22 February | Assignment 8: Draft preparation and supervisor feedback planning; Table of content, proposed rubric allocation due |
| 1 March     | <b>Complete draft to supervisor, Supervisor feedback due March 8!</b>                                              |
| 8 March     | Feedback and analysis clinic                                                                                       |
| 15 March    | Student progress presentations                                                                                     |
| 22 March    | Thesis revision clinic                                                                                             |
| 29 March    | <b>Thesis submitted for assessment, 16:00 (proposed)</b>                                                           |
| 5 April     | Defence rehearsal                                                                                                  |
| 19 April    | HQE target, subject to departmental confirmation                                                                   |
| 26 April    | Corrected final thesis, 16:00 (proposed target)                                                                    |

The HQE requires a separate timetable and checks for examination conflicts.

Confirm conference dates, participation and any travel arrangements separately.

**Project methods, data interpretation and substantive thesis feedback: contact your supervisor. Course milestones, presentations, assessment procedures or persistent supervision difficulties: contact the coordinator.**

Departmental forms, project agreements and student information: [Earth and Environmental Sciences Current Students](#)

**UNIVERSITY POLICIES.**

See also **Student Supports** link on BrightSpace

**TERRITORY AND COMMUNITY**

Our Halifax meetings take place in Mi'kma'ki, on the unceded territory of the Mi'kmaq. Consider responsibilities to the lands, waters and communities connected to your research. Read Dalhousie's [land acknowledgement](#)

Dalhousie also recognises the histories, contributions and continuing connections of African Nova Scotian communities through its [African Nova Scotian acknowledgement](#)

**INTERNATIONALIZATION AND INCLUSION**

Earth and environmental questions cross borders. Consider how geographical, cultural and social contexts shape research questions, knowledge and consequences. Respect different backgrounds and perspectives, and critique evidence and reasoning constructively.

**ACCOMMODATION POLICY FOR STUDENTS**

Students may request academic accommodation for barriers related to disability, religious obligation or other protected characteristics. Contact the Student Accessibility Centre as early as possible to discuss access needs and arrange accommodations.

Accommodation requests and current procedures: [Student Accessibility Centre](#)

**ACADEMIC INTEGRITY**

Students are responsible for understanding and following Dalhousie's academic integrity requirements. Cite sources of text, ideas, data, code and images; acknowledge assistance and collaboration; and obtain authorization before reusing work previously submitted for credit. Instructors refer suspected academic offences through the applicable Faculty process.

University requirements and procedures: [Academic Integrity](#)

**GENERATIVE ARTIFICIAL INTELLIGENCE**

Seek clarification from the coordinator before using generative AI in assessed work. Any permitted use must comply with the confirmed course rules and project confidentiality requirements and must be disclosed as required. Students remain responsible for the accuracy, sources, analysis and authorship of everything they submit. Supervisor advice must be consistent with the course rules.

**STUDENT CODE OF CONDUCT**

Students are expected to follow the Code of Student Conduct during course meetings, presentations, field and laboratory activities, and communications. Treat others respectfully and help maintain an inclusive learning environment.

Current conduct policy: [Code of Student Conduct](#)

## **COPYRIGHT**

All members of the Dalhousie community must comply with copyright obligations, licences and fair-dealing requirements. A citation does not itself authorize copying. Consult [Copyright at Dalhousie](#) and the [Fair Dealing Policy](#)

## **RECORDING**

Student recordings require prior written permission or an approved accommodation. Authorized recordings are for personal academic use; sharing requires further written permission from the instructor and other presenters. Any coordinator recording arrangements will be communicated in advance. See the [Class Recording Protocol](#)

## **Services Available to Students**

Use the current service pages for appointments, locations, eligibility and access arrangements.

| <b>Service</b>              | <b>Support Provided</b>                                            | <b>Access</b>                          | <b>Contact</b>                           |
|-----------------------------|--------------------------------------------------------------------|----------------------------------------|------------------------------------------|
| <b>Academic Advising</b>    | Degree requirements, programme choices and academic planning       | <b>Bissett Student Success Centre</b>  | <a href="#">Academic Advising</a>        |
| <b>Dalhousie Libraries</b>  | Literature searches, citations, subject guidance and research data | <b>Online and library services</b>     | <a href="#">Library Research Support</a> |
| <b>Studying for Success</b> | Study strategies, workshops and learning support                   | <b>Current options online</b>          | <a href="#">Studying for Success</a>     |
| <b>Writing Centre</b>       | Thesis structure, argument, source use and scientific writing      | <b>Appointments and online support</b> | <a href="#">Writing Support</a>          |