University of Manitoba | Faculty of Agricultural & Food Sciences
Department of Biosystems Engineering

Course Outline

BIOE 7290 Biosystems Engineering Seminar Fall 2025

Instruction Team
- Dr. Chyngyz Erkinbaev (he/him)
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Student Hours
- Individual assistance is available by appointment.

Teaching Assistants
- N/A

Location
- Lecture **E2-164 EITC**
  Tues 10:00-11:15 AM
  Thurs 10:00- 11:15 AM

Contact Hours
- 3 credit hours
- Lectures:
  3 hours x 12 weeks = 36 hours

Prerequisites:
- Registered in the Biosystems Engineering program

Course Website:
http://umanitoba.ca/umlearn

Traditional Territories Acknowledgement

The University of Manitoba campuses are located on the original lands of the Anishinaabeg, Cree, Oji-Cree, Dakota, and Dene peoples, and on the homeland of the Métis Nation.

We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation and collaboration.

Updated: July 11, 2022

Course Objectives

Oral and written presentations of scientific research are discussed. Students are expected to actively participate in weekly seminars and to present two seminars both orally and in writing.

Course Content

Graduate students are expected to communicate the results of their research both in written form (for theses, research papers, non-technical reports) and orally (conference presentations, thesis defense). This course will provide students with instructions to improve their abilities in each of these areas:

1. Writing a literature review.
2. Writing a non-technical summary of scientific work.
3. Critiquing scientific "writing to achieve an effective technical paper.
4. Making an effective oral presentation.
5. Making an effective poster

Class Schedule

Week 1. Course overview, orientation to Department of Biosystems Engineering, managing stress and being a successful graduate student.
Week 2. Direct writing strategies; writing effective project summaries for a non-technical audience (Ch 26)
Week 3. Strategies for creating good posters (Ch 28) and presenting data.
Week 4. Strategies for making and delivering effective oral presentations (i.e., research seminars, technical conferences, thesis defense) (Ch 27); forms of scientific misconduct and plagiarism (Ch 5); citations (Ch 15).
Week 5. Methods for documenting literature that is reviewed (i.e., annotated bibliography); the writing process.
Week 6. Poster presentations.
Week 7. Fundamentals of writing an effective technical paper, overall organization (Ch 4) and the purpose of each section: introduction (Ch 10), materials and methods (Ch 11).
Week 8. Strategies for writing an effective literature review (Ch 23); Fundamentals of writing an effective technical paper (results (Ch 12).
Week 9. Fundamentals of writing and effective technical paper: discussion, conclusions, limitations (Ch 13), the abstract (Ch 9).
Week 10. The peer review process (Ch 6, 21, 22 and 40)
Week 11. **No class** (Reading week)
Week 12. Practice presentations and peer feedback (TBD)
Week 13. Technical presentation by students
Week 14. What to expect when attending and presenting at a technical conference; course wrap-up.

Textbook
Suggested Reference Book: Day, R.A. and B. Gastel. 2011. How to Write and Publish a Scientific Paper, 7th Ed. Greenwood Press, Santa Barbara, CA.

Important Dates

- Early Withdrawal Deadline
  Sept 16, 2025
- National Day for Truth and Reconciliation
  Sept 30, 2025
  No classes or examinations
- Thanksgiving
  Oct. 13, 2025
  No classes or examinations
- Fall Term Break
  Nov. 10-14, 2025
  No classes or examinations.
- Voluntary Withdrawal Deadline Nov 18, 2025
- Last Day of Classes
  Dec. 8, 2025

Grading Scale

Note: These boundaries represent a guide for the instructor and class alike. Provided that no individual student is disadvantaged, the instructor may vary any of these boundaries to ensure consistency of grading from year-to-year.

Letter	Mark
A+	95–100
A	87–94
B+	78–86
B	72–77
C+	66–71
C	60–65
D	50–59
F	< 50

Evaluation

Assignment	Allocation	Description	Date
Non-technical Summaries	10%	There are many instances where it is necessary and beneficial to explain technical findings in non-technical language to effectively convey the importance of technical findings to the general public. Students will prepare two non-technical summaries: i) a one-paragraph non-technical summary of an undergraduate thesis project and ii) a one-paragraph non-technical summary of a research article recently published by a professor in the Department of Biosystems Engineering.	Week 4
Poster Presentation	15%	Students will design an academic poster that presents the information from a published paper. They will then give a short (3-minute) oral presentation of that poster to the course instructors and their classmates. Note: Students will be given several papers from which to choose to enable them to select a paper that aligns with their area of interest/research.	Week 6
Annotated Bibliography	10%	Students will be expected to select a topic related to the discipline of Biosystems Engineering (preferably related to the area of the proposed research for MSc students), find papers related to their chosen topic, and prepare an annotated bibliography summarizing the content of the papers using the specific format.	Week 8
Literature Review	20%	Using the information from the papers reviewed as part of the annotated bibliography assignment (or additional sources if necessary), students are required to write a 1-page (single-spaced) literature review that culminates with an unanswered research question or issue that has not been resolved by prior research. In essence, the literature review is used to identify a future research objective.	Week 10
Paper Critique	20%	Students will be given a draft of a technical paper that has not yet been published, and without an abstract. Students will critique the paper to identify i) aspects of the paper that have been written effectively and ii) aspects of the paper that could be improved based on the fundamentals of writing an effective technical paper that were discussed in class. Finally, students will write an informative abstract for the paper. Note: Students will be given several papers from which to choose to enable them to select a paper that aligns with their area of interest/research.	Week 12
Presentation	20%	Prepare a 10 min presentation using PowerPoint describing the information gained during the literature review that was conducted. Prior to each presentation, presenters will be required to submit 3 key points to be conveyed by the presentation. Your presentation will be evaluated by the course instructor.	Week 13
Evaluation of Presentation	5%	Evaluate the presentations made by your peers to. i) assess how well the presenter conveyed the 3 key points, ii) identify constructive feedback to enable the presenter to improve the presentation, and iii) identify presentation strategies that were well done by the presenter which could be applied to your presentations. Feedback will be shared with the presenter.	Week 13

E-mailing rule: Use UM assigned e-mail ONLY with subject line "BIOE 7290".
Assignments: Assignment should be submitted via UM Learn before the posted deadline date/time. Name the Assignments as "A1_Student First and Last Name".

Late Submission Policy
Assignments submitted after the due date will be docked 20% per day.

Referencing Style: Students are expected to follow the Canadian Biosystems Engineering (CBE) journal reference style when citing references in course assignments. The Instructions for preparing a paper for CBE is available through UM Learn. Please refer to this guide to ensure that you follow the correct referencing style.

Academic Integrity

Students are expected to conduct themselves in accordance with the highest ethical standards of the Profession of Engineering and evince academic integrity in all their pursuits and activities at the university. As such, in accordance with the *General Academic Regulations* on *Academic Integrity*, students are reminded that plagiarism or any other form of cheating in examinations, term tests, assignments, projects, or laboratory reports is subject to serious academic penalty (e.g., suspension or expulsion from the faculty or university). A student found guilty of contributing to cheating by another student is also subject to serious academic penalty.

Requirements/Regulations

- Please copy the Instruction Team in all emails (Instructors and Teaching Assistants). All email communication must conform to the Communicating with Students university policy.

Communicating with Students

- As the Instruction Team, we will do our best to respond to all emails **within 48 hours during working hours** (8:30 AM – 5:30 PM Monday thru Friday). Ex. A Friday night email may not be responded to until the following Tuesday.
- Self-declaration forms may be completed for missed tests, exams, or assignments during short-term absences (≤72 hours) for extenuating circumstances. This form cannot be used for planned absences like vacations. It is also not to be used for longer-term absences, or ongoing circumstances (e.g., Authorized Withdrawals, Leaves of Absence, or other accommodations), which will still require additional documentation.

Self-Declaration Form for Brief or Temporary Absence

Self-Declaration Policy for Brief or Temporary Absences

- It is the responsibility of each student to contact the instructor in a timely manner if he or she is uncertain about his or her standing in the course and about his or her potential for receiving a failing grade. Students should familiarize themselves with the University's *General Academic Regulations*.

General Academic Regulations

Engineering Academic Regulations

- Students should be aware that they have access to an extensive range of resources and support organizations. These include Academic Resources, Counselling, Advocacy and Accessibility Offices as well as documentation of key University policies e.g., Academic Integrity, Respectful Behaviour, Examinations, and related matters.
- *Supplemental Resources*

Deferred Final Examinations

Students who miss the regularly scheduled writing of a final examination for valid medical or compassionate reasons will only be allowed to write a deferred exam if the Associate Dean (Undergraduate) approves the request. All requests for a deferred examination *must* be made within 48 hours of the missed exam and follow the procedure described on the Faculty website without exception. Course Instructors *do not have the discretion* to grant deferred final examinations.

Deferred Exam Policy (student experience website)

Retention of Student Work

Students are advised that copies of their work submitted in completing course requirements (i.e., assignments, laboratory reports, project reports, test papers, examination papers, etc.) may be retained by the Instructor and the Department for the purpose of student assessment and grading, and to support the ongoing accreditation of each Engineering program. This material shall be handled in accordance with the University's *Intellectual Property Policy* and the protection of privacy provisions of *The Freedom of Information and Protection of Privacy Act (Manitoba)*. Students who do not wish to have their work retained must inform the Head of Department, in writing, at their earliest opportunity.

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