Western Engineering

DEPARTMENT OF ***Chemical and Biochemical*** ENGINEERING

CBE 3322: Heat Transfer Operations

Course Outline (Fall 2026)

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TA Name: TBA

LECTURE:	Scheduled 3hrs per week
TUTORIAL:	Scheduled 1 hour per week
ANTIREQUISITE(s):	None
PREREQUISITE(s):	CBE 2220A/B, CBE 2221A/B or registration in the Integrated Engineering program, or permission of the Department. Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record.
CEAB Academic Units:	Engineering Science = 70 % Engineering Design = 30 %
TEXT / Course Resources / References	Fundamentals of heat and mass transfer. Bergman, Theodore L., Frank P. Incropera, and Adrienne S. Lavine. John Wiley & Sons, 8th Ed. https://bookstore.uwo.ca/textbook-search?campus=UWO&term=W2025A&courses%5B0%5D=001_UW/CBE3322A

COURSE DESCRIPTION (50 words max)
This course will tell you fundamentals of heat transfer (conduction, convection, and radiation) and their applications in chemical engineering. It also covers the design methodologies of equipment where heat transfer is of main concern (e.g. heat exchangers with and without phase change, agitated reactors, evaporators, reactors, etc.).

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General Learning Objectives (CEAB Graduate Attributes)

Knowledge Base		Engineering Tools		Impact on Society	
Problem Analysis		Individual & Teamwork	*	Ethics and Equity	
Investigation		Communication		Economics and Project Mgmt.	
Design	*	Professionalism		Life-Long Learning	*

Evaluation Components

Degree Level Expectation	Weight	Assessment Tools	Outcomes
Depth and breadth of knowledge	30%	Assignments and Quizzes	Understanding fundamentals of heat transfer and their applications
Research	10%	Understanding new methods in design of heat transfer limited equipment	Becoming familiar with design approaches
Application of knowledge in design	60%	Projects and examinations	Ability to apply knowledge in a rational way to analyze heat transfer problems and finding practical solutions

EXTRA COURSE INFORMATION

TERM STRUCTURE

Assignments' problems to be solved
Quizzes (closed book)
Dates to be announced

BRIGHTSPACE RESOURCES

Course information and lectures, assignment and quizzes

COURSE MATERIALS

Presentations and notes will be provided ahead of the lectures

ASSESSMENTS

Name	% Worth
Assignments/quizzes	20
Midterm Exam.	20
Final Exam	60

In general, this course employs flexible deadlines for assignments. The assignment deadlines can be found above in the course outline. *For each assignment, students are expected to submit the assignment by the deadline listed*.
Should illness or extenuating circumstances arise, students are permitted to submit their assignment up to 72 hours past the deadline without academic penalty. Should students submit their assessment beyond 72 hours past the deadline, a late penalty of 10% per day will be subtracted from the assessed grade. The instructor may deny academic consideration relating to the timeframe submission of work where there is

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already flexibility in the submission timeframe (e.g., 72-hour submission window). This assessment flexibility must be indicated on the course outline.
Different arrangements may be employed depending on the type of deliverables and restrictions.

Students are allowed to use AI and online resources in deliverable, subject complete understanding of the concepts, terms and their applications.

LAB INFO
There is no lab in this course.

1 Faculty of engineering Policies and Procedures-Undergraduate

The Faculty of Engineering has established for 2025 a set of Policies and Procedures for Undergraduate Students. The policy covers:

- Absence/Late Accommodation Policy
- Religious Accommodation
- Academic Integrity
- Academic Offences
- Faculty of Engineering AI Policy
- Accessibility
- Inclusivity, Diversity, and Respect
- Health and Well-being

See the following subsections for notes on specifics on how some of these policies apply in the context of Air Pollution Control.

1.1 Absence/Late Accommodation Policy

In general, you are expected to advise the Course Coordinators if you are having problems completing an assignment on time (**prior to the due date of the assignment**).

Lab Attendance, Fall Group Presentation, and Winter Showcase

1. No Lab component in this course

Individual Assignments

1. This course employs flexible deadlines for **individually submitted assignments** (not group assignments). For each assignment, you are expected to submit the assignment by the deadline listed. Should illness or extenuating circumstances arise, you are permitted to submit your assignment up to 72 hours past the deadline without academic penalty.
2. Assignment submissions **will not be accepted beyond 72 hours** past the deadline. As flexible deadlines are used for these assessments, requests for academic consideration will not be granted. If you have a long-term academic consideration or an accommodation for

disability that requires greater flexibility than provided here, please reach out to the Course Coordinators at least one week prior to the posted deadline.

Individual Teamwork Evaluations

1. Peer Feedback surveys are used as part of the Individual Teamwork Skills grade and involve team peers giving feedback to colleagues. These surveys are open for at least 72 hours and **cannot accept late submissions once closed**. As a flexible deadline is used for this assessment, requests for academic consideration will not be granted. If you have a long-term academic consideration or an accommodation for disability that allows greater flexibility than provided here, please reach out to the Course Coordinators at least one week prior to the posted deadline.

Project Work

1. Except for exceptional circumstances, a team member's absence or lack of availability does not preclude the timely submission of Group Project Deliverables by teams. Students must consult with their Lab Instructors in advance of the Group Project Deliverable due date if they anticipate issues related to team member absences.
2. Group Project Deliverables are due at the specified date and time, and late submissions will be subject to a flat 10% for the 1st hour late, and a 20% deduction for the remaining 1-24 hours late. Submissions will not be accepted beyond 24 hours after the due date.

If you have a long-term academic consideration or an accommodation for disability that requires greater flexibility than provided here, please reach out to the Course Coordinators at least one week prior to the posted deadline.

2.1 Academic Considerations

Air pollution control course follows the Faculty and University policies for Academic Considerations. In accordance with the policy that instructors are permitted to designate one assessment per course per term as requiring supporting documentation to receive academic consideration. There is no presentation or group work in this course.