



CEE 4404b—Advanced Topics in International Development for Engineers -Course Outline 2026

This course introduces students to the concepts of Leadership, Management and Project Planning in international development and gives insight into how to work effectively in an international context. This course will assist students to achieve a deep and broad understanding of how international development cooperation works in order to effectively use their interpersonal and engineering abilities in developing countries. The general objectives are for the student to become able to:

- Continue to develop a deep and broad understanding of how international development cooperation works
- Strengthen the tools to prepare to be an effective practitioner, leader and manager of international development projects
- Improve written and oral communication skills through thoughtful class contribution, presentations, debates and discussions
- Apply knowledge to case studies and effectively work through making management decisions in the context of an international development project
- Analyze, relate and explain key development issues, problems, solutions and consequences
- Recognize the need for life-long learning to keep abreast of new methods in international development. Also to enhance one's abilities as an effective leader and manager working collaboratively to bring the project to completion while continually enhancing one's engineering competency.

Calendar Copy: This course will help students to achieve a deeper and broader understanding of the role of engineering in international development. The course will also immerse students into various situations of managing an international development project in a disaster area. This course makes extensive use of the case method and the decision makers in some of the cases will attend. A range of advanced topics will be covered.

Prerequisites: CEE 3327A/B Admission to the Environmental Engineering with International Development Option or the Structural Engineering with International Development Option.

Antirequisite: None

Corequisites:

Note: It is the **student's responsibility** to ensure that all Prerequisite and Corequisite conditions are met or that special permission to waive these requirements has been granted by the Faculty. It is also the **student's responsibility** to ensure that they have not taken a course listed as an Antirequisite. The student may be dropped from the course or not given credit for the course towards their degree if they violate the Prerequisite, Corequisite or Antirequisite conditions.

Contact Hours: 2 lecture and 2 tutorial hours/week Students should visit the online timetable for days, times and class room numbers.

Classes begin: The first class for CEE 4404b will be Tuesday, January 6th

Course Style and Specific Learning Objectives – Attendance is mandatory for all classes.

Attendance is a must as the information, themes and discussion ‘threads’ flow from class to class.

The pedagogical model is **collaborative learning**. The classes will be based on a combination of discussions, debates, readings, videos, team/group work, presentations and lectures.

The course instructor will provide mentorship and guidance for the students to undertake individual and collective learning processes focused on achieving the course objectives.

Students will research topics and present their findings to the class. Projects will explore pertinent areas of International Development, Project Planning and Design, Management and Leadership.

Case studies that will illustrate true to life, practical applications of the topic material and course assignments will explore pertinent areas of international development.

Instructor:

Office Hours for Instructor to see students: to be determined after discussion with class.

Class Content Sources: Cases, readings, videos, radio interviews, activities-will be provided throughout the course.

Specific Learning Objectives:

By the end of the course, the student should be able to articulate her/his own learning with respect to these key points aligned with the course’s specific learning objectives:

- Show their comprehensive knowledge of what is happening in the world and analyze the interactions of engineering with economic, social, health, safety, legal and cultural aspects of society. [IESE1]
- Explain what works and what doesn’t in international development cooperation [IESE 1,2,3, CS 2]
- Demonstrate competence in specialized engineering knowledge appropriate to engineering discipline [KB3, KB4]
- Demonstrate the ability to tackle case studies and in-class building assignments to identify problems, formulate a strategy to find solutions and reach sustainable conclusions [PA1, PA 2, PA3]
- Develop and demonstrate the ability to define, analyze, investigate and plan in -class building assignments [I1, I2, I3]
- Use their critical thinking to make good decisions in complex situations in individual and group work [ITW2, ITW3, PR2]

- Demonstrate their knowledge and understanding of sustainable design and development and of the decision making processes in international development projects through use of decision matrices. [IESE 2]
- Demonstrate the ability to generate diverse sets of design solutions. [D2, D4]
- Maintaining a future of Life-Long Learning by learning independently. [LL2]
- Describe major aspects from international development that will enhance one's effectiveness and impacts as an engineer in economic, social, health, legal, cultural and environmental stewardship [ITW 1,ITW3, IESE 1,2,3, CS 2,3]
- Demonstrate ability to create/develop/adapt/appropriate engineering tools in major assignment [ET3]
- Be able to provide advice on international development cooperation projects [IESE 3, 1,2,]
- Improve written, communication and presentation skills, and articulate lessons learned [CS2, CS3]
- Demonstrate and apply ethical behaviour, professional accountability and principles of equity [EE1, EE2,EE3,EE4]
- Identify challenges, circumstances and consequences faced by developing countries in our global community [IESE 1]
- Demonstrate the ability to incorporate economics, time management, materials management, human resources, and risk into working in disaster areas (in-class build). [EPM1, EPM2, EPM3]

General Learning Objectives

Introductory (I): The instructor will introduce the topic at the level required. It is not necessary for the student to have seen the material before.

Developing (D): There may be a reminder of review, but the student is expected to have seen and been tested on the material before taking the course.

Advanced (A): It is expected that the student can apply the knowledge without prompting (e.g.) no review

Problem Analysis	A	Individual and Team Work	A	Ethics and Equality	A
Investigation	D	Communication	A	Economics and Project Management	D
Design	D	Professionalism	A	Life-Long Learning	D
Engineering Tools	D	Impact on Society	A	Knowledge based	D

Accreditation Units:

Complementary Studies: 100%

Evaluation Breakdown:

The final course mark will be determined as follows:

Class Participation/Contribution:	20%
Controversial Issues Assignment.....	25%
Group Project/Presentation.....	20%
Written Final Examination.....	35%
Total	100%

Your marks will be a combination of written assignments sent to BrightSpace's Assignments site, a case analysis quiz, your opinions and analysis expressed throughout classroom discussion and, group presentations.

Note:

- (a) Students must pass the final examination to pass this course.** Students who fail the final examination will be assigned the aggregate mark, as determined above, or 48%, whichever is less.
- (b) Students must turn in all individual assignments and projects to pass this course.** Students who do not satisfy this requirement will be assigned 48% or the aggregate mark, whichever is less.
- (c) Students who have failed this course previously must repeat all components of the course.** No special permissions will be granted enabling a student to retain laboratory, assignment or test marks from previous years. Previously completed assignments and laboratories cannot be resubmitted.
- (d) Should any of the classes conflict with a religious holiday that a student wishes to observe, the student must inform the instructor of the conflict no later than two weeks before the scheduled class.**

1. There will be no Mid-Term Quiz

2. Final Examination (35%)

The 3 hour final examination will be written in-person CLOSED BOOK.

3. Assignments:

Two assignments will be completed for this class: the Controversial Issues Assignment (25%), and Group Topic Presentation (20%).

- i) **The Controversial Issues Assignment** involves the student choosing 2 different issues. For each issue-research two sides of the issue, summarize research for the pro and con, and finally make your choice-pro/con. The student will be asked to defend their choice in class. **Submit to Brightspace- Assignments)**
- ii) **The Group Topic Presentation** involves students forming a group and choosing a topic. Using the guidelines provided on the information sheet, they will present the information for 20-25 minutes in class and answer questions, on a scheduled date provided.

4. Participation (20%): This mark is not a 'gift' it has to be earned. The mark given (0-20) will be influenced by each student's discussion contributions and engagement during class case analysis and white board group assignments. Absences (poor attendance), lateness getting into class (over 10 minutes), and work not done will also impact your Participation mark.

Weekly Case Studies, Articles, videos, radio interviews:

There will be no Homework to do before classes-with a couple of exceptions. The Cases analyzed and discussed in class will be given out in class. The students will not see the case before class. The Power Points with Content, Case studies, International situations, will be used in class, analysed, solutions suggested, discussed and the cases redesigned. Brightspace Class tabs will inform students of Themes for classes.

- i) Case study information, Town Halls, articles, videos, guest speakers, and guideline questions will be used in class to spark discussions. Discussions concerning your ideas, opinions, questions, solutions and content will encompass the class format.

Please, note that late assignments will be penalized as follows:

Within 24 hrs of deadline 10% will be deducted

Within 48 hrs of deadline 20% will be deducted

Within 72 hrs of deadline 30% will be deducted.

Assignments handed in after 72 hrs have passed from the deadline will not be graded.

I. Missed/Late Accommodation Policy:

1. Students missing a test/assignment/lab or examination you will report the absence by submitting Academic Consideration Request form through [STUDENT ABSENCE PORTAL](#).
2. Documentation must be provided as soon as possible.

II. Exam Accommodation:

1. If you are unable to write a final examination, report your absence using the Academic Consideration Request Form through [STUDENT ABSENCE PORTAL](#).
2. Be prepared to provide the Undergraduate Services Office with supporting documentation (see next page for information on documentation) the next day, or as soon as possible (in cases where students are hospitalized). The following circumstances are not considered grounds for missing a final examination or requesting special examinations: common cold, headache, sleeping in, misreading timetable and travel arrangements.
3. In order to receive permission to write a Special Examination, you must obtain the approval of the Chair of the Department and the Associate Dean and in order to apply you must submit an the Academic Consideration Request Form through [STUDENT ABSENCE PORTAL](#).

PLEASE NOTE: It is the student's responsibility to check the date, time and location of the Special Examination.

III. Late Assignments:

1. Students must advise the course instructor if they are having difficulty completing an assignment on time (prior to the due date of the assignment).
2. Students should be prepared to submit the Academic Consideration Request Form and provide documentation if requested to do so by the course instructor (see reverse side for information on documentation).
3. If granted an extension, a revised due date should be established with the course instructor. The approval of the Chair of your Department (or the Assistant Dean, First Year Studies, if you are in first year) is not required if assignments will be completed prior to the last day of classes.
4. If this course has 10 assignments with only 8/10 assignments counted towards your final grade. Academic consideration will not be granted for missed assignments. If students miss 2/10 assignments, the remaining 8 assignments will be used in the calculation of the final grade. If students miss more than 2 assignments, they will receive a grade of zero on each missed assignment.
5. 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 XX% per day will be subtracted from the assessed grade. As flexible deadlines are used in this course, 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 your instructor at least one week prior to the posted deadline.
6. Extensions beyond the end of classes must have the consent of the instructor, the department Chair and the Associate Dean, Undergraduate Studies. Documentation is mandatory.

Note: Forged notes and certificates will be dealt with severely. To submit a forged document is a scholastic offence (see below).

IV. Medical Accommodation:

1. Requests for Academic Consideration Request Form through [STUDENT ABSENCE PORTAL](#)..
2. Requests for academic consideration must include the following components:
 - a. Self-attestation signed by the student (*This is only accepted for the first/one absence*)
 - b. Medical note
 - c. Indication of the course(s) and assessment(s) affected by the request
 - d. Supporting documentation as relevant
3. Requests without supporting documentation are limited to one per term per course.

4. Students must request academic consideration as soon as possible and no later than 48 hours after the missed assessment.

5. Once the request and supporting documents have been received and reviewed, appropriate academic consideration, if granted, shall be determined by the instructor in consultation with the academic advisor, in a manner consistent with the course outline. Academic consideration may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, or re-weighting of course requirements. Some forms of academic consideration, such as arranging Special Examinations, assigning a grade of Incomplete, or granting late withdrawals without academic penalty, may only be granted by the Academic Advising office of the Faculty of Engineering.

V. Religious Accommodation:

When scheduling unavoidably conflicts with religious holidays, which (a) require an absence from the University or (b) prohibit or require certain activities (i.e., activities that would make it impossible for the student to satisfy the academic requirements scheduled on the day(s) involved), no student will be penalized for absence because of religious reasons, and alternative means will be sought for satisfying the academic requirements involved. If a suitable arrangement cannot be worked out between the student and instructor involved, they should consult the appropriate Department Chair and, if necessary, the student's Dean. It is the responsibility of such students to inform themselves concerning the work done in classes from which they are absent and to take appropriate action.

VI. Academic Integrity:

In the Faculty of Engineering, we encourage students to create a culture of honesty, trust, fairness, respect, responsibility, and courage, befitting the professional degree you are pursuing.

Please visit: [Academic Integrity Western Engineering](#) for more information.

VII. Academic Offences:

Plagiarism means using another's work without giving credit. The university has rules against plagiarism and other scholastic offences. Western Engineering has a zero-tolerance policy on plagiarism. The minimum penalty is zero on the course work and a repeat offence will earn you zero on the course. A third offence may lead to expulsion from the university.

[Scholastic Discipline for Undergraduate Students & Cheating, Plagiarism and Unauthorized Collaboration: What Students Need to Know](#)

Students must write their reports, essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. University policy states that cheating, including plagiarism, is a scholastic offence. The commission of a scholastic offence is attended by academic penalties, which might include expulsion from the program. If you are caught cheating, there will be no second warning.

All required papers may be subject to submission for textual similarity review to commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted will be included as source documents on the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between the University of Western Ontario and Turnitin.com (<http://www.turnitin.com>). Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, in the relevant section of the Academic Handbook:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

VIII. Faculty of Engineering AI Policy:

The use of generative Artificial intelligence (GenAI) tools won't be discouraged in the Faculty of Engineering. As we pride ourselves on building the future we can't hide from the use of GenAI tools to contribute to the understanding of the course materials. However, the use of GenAI tools in any assignment or contribution during the course will have to be disclosed, as a resource.

GenAI tools use won't be permitted in any type of examination or other assessments where the faculty have prohibited their use. If use of GenAI tools is detected by the instructor in these instances, academic offences penalties might be imposed against the student.

IX. Use of English Policy:

In accordance with Senate and Faculty Policy, students may be penalized up to 10% of the marks on all assignments, tests, and examinations for improper use of English. Additionally, poorly written work except for the final examination may be returned without grading. If resubmission of the work is permitted, it may be graded with marks deducted for poor English and/or late submission.

X. Accessibility:

Western is committed to achieving barrier free accessibility for persons with disabilities studying, visiting and working at Western. As part of this commitment, there are a variety of services, groups and committees on campus devoted to promoting accessibility and to ensuring that individuals have equitable access to services and facilities. To help provide the best experience to all members of the campus community, please visit [Accessibility Western University](#) for information on accessibility-related resources available at Western.

Students with disabilities may arrange for academic accommodation at Western. For a more detailed explanation, please visit [Academic Support & Engagement -Academic Accommodation](#).

XI. Inclusivity, Diversity, and Respect:

The Faculty of Engineering at Western University is committed to creating equitable and inclusive learning environments that value diverse perspectives and experiences. We recognize that university

courses often marginalize students based on social identity characteristics such as, but not limited to, Indigeneity, race, ethnicity, nationality, ability, gender identity, gender expression, sexuality, age, language, religion, and socioeconomic status. Understanding this, we strive to facilitate equitable experiences and inclusion within the classroom by respecting and integrating multiple ways of knowing, being, and doing. Please visit the [Office of Equity, Diversity and Inclusion](#) . .

XII. Health and Well-Being:

- [Health & Wellness Services – Students](#) - Offers appointment-based medical clinic for all registered part-time and full-time students.
- [Mental Health Support](#) - Provides professional and confidential services, free of charge, to students needing assistance to meet their personal, social and academic goals. Services include consultation, referral, groups and workshops, as well as brief, change-oriented psychotherapy.
- [Crisis Support](#) - For immediate assistance, please visit Thames Hall Room 2170 or call 519-661-3030. The crisis clinic operates between 11:00 am - 4:30 pm. **For after-hours crisis support, click [here](#).**
- [Gender-Based Violence and Survivor Support](#) - Western [is committed to reducing incidents of gender-based and sexual violence](#) and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced gender-based or sexual violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts, here. To connect with a case manager or set up an appointment, please contact: support@uwo.ca.

Important Contacts:

[Engineering Undergraduate Services](#) SEB 2097 519-661-2130 engugrad@uwo.ca

[Civil & Environmental Engineering](#) SEB 3005 519-661-2139 civil@uwo.ca

[Office of the Registrar/Student Central](#) Central WSSB 1120 519-661-2100

Important Links:

- [WESTERN ACADEMIC CALENDAR](#)
- [ACADEMIC RIGHTS AND RESPONSIBILITIES](#)

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