

Western University - Faculty of Engineering
Department of Civil and Environmental Engineering

CEE 4404b – Advanced Topics in International Development for Engineers
Course Outline Winter 2024

This course intends to develop an understanding of key issues and dilemmas of Leadership, Management and Project Planning within international development and global context. As part of a series of courses in the Structural Engineering and International Development, and Environmental Engineering and International Development programs, the goal of this course is to advance civil engineering students knowledge and skills to successfully undertake challenges in developing countries, countries in transition, and at-need communities in developed countries. The issues covered by the course include governance, participatory planning, urban-rural linkages, decentralization, poverty, trade and outsourcing and labor standards, post-conflict development and the role of aid in development.

The general objectives are for the student to become able to:

- Develop a knowledge base in the history, concepts and theories of development planning.
- Analyze the unique challenges and complexities of international development projects.
- Familiarize with the most urgent issues of development planning in the light of globalization and political and economic instability.
- Acknowledge ethical and cultural considerations in international development leadership and management.
- Identify key actors and institutions which shape planning and executing of international development projects.
- Acquire the tools to prepare to be an effective practitioner, leader and manager of international development projects.
- Apply knowledge to case studies and effectively work through making management decisions in the context of an international development project
- Improve written and oral communication skills through thoughtful class contribution, presentations, debates and discussions
- 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:

The course will introduce the concept of appropriate technology in the context of international development to students. It will examine the application of technologies to critical human needs in development, such as housing, transportation, provision of safe water and sanitation, waste management, and energy (0.5 course).

Prerequisites: Admission to the Environmental Engineering with International Development Option or Structural Engineering with International Development Option.

Antirequisite: None

Note: It is the student's responsibility to ensure that all Prerequisite 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 or Antirequisite conditions.

Contact Hours:

4 lecture hours per week;

Attendance at the lectures is mandatory.

Instructor:

Dr. Sabina Rakhimbekova

srakhimb@uwo.ca

Administrative Support:

Sandra McKay

civil@uwo.ca

Course notes and reading material will be provided through the course website.

Computing:

Written assignments must be submitted as word processed documents in WORD or PDF formats. All assignments will be submitted via the OWL course website using TURNITIN.

Course Style:

The pedagogical model is collaborative learning, so the classes will be based mostly on discussions and case studies rather than lectures. Students are expected to come to class prepared to discuss the weekly readings or videos. The course instructor will provide mentorship and guidance for the students to undertake individual and collective learning processes focused on achieving the course objectives. A substantial reading list will be employed that will provide material for digestion, synthesis, and reflection in individual written assignments and group discussions in class. Students will research topics and present their findings to the class. Case studies will explore pertinent areas of international development, Project Planning, Management and Leadership. Guest speakers will provide case studies that illustrate practical applications of the topic material.

Specific Learning Objectives [GA Indicator – **bold** denotes evaluated indicator]:

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

- Show their comprehensive knowledge of what is happening in the world [**IESE1**]
- Explain what works and what doesn't in international development cooperation and why [IESE1,2,3, **CS2**]
- Articulate what lessons were learned from various aspects of international development cooperation [CS2,3]

- Apply knowledge to case studies and effectively work through making management decisions in the context of an international development project [IESE2]
- Use critical thinking skills to make good decisions in complex situations [PR2]
- Improve written, confidence, communication and presentation skills [CS2, CS3]
- Be able to provide advice and Leadership on international development cooperation projects [CS2,3, PR 2, ITW 2]
- Identify challenges, circumstances and consequences faced by developing countries in our global community [IESE1]
- Acquire the tools to prepare to be an effective practitioner, leader and manager of international development projects [ITW 1,2]
- Expand their global perspectives as to what is happening in other countries [IESE3, PR2]
- Describe major aspects learned from international development that will enhance one's effectiveness as an engineer working as a Project Manager and Leader [ITW2]
- Demonstrate their knowledge of the decision making processes to formulate strategy to solve problems [IESE2]

General Learning Objectives:

E=Evaluate, T=Teach, I=Introduce (*Advanced level*)

Knowledge Base		Engineering Tools		Impact on Society	E
Problem Analysis	T	Team Work	E	Ethics and Equity	I
Investigation	T	Communication	E	Economics and Project Management	T
Design		Professionalism	E	Life-Long Learning	T

Evaluation:

The final course mark will be determined as follows:

- Controversial Issues Assignment 20%
- Case Analysis Quiz 10%
- Class Contribution 20%
- Group Project 20%
- Final Examination 30%

Total 100%

Note: (a) **Students must turn in all assignments and achieve a passing grade in this component, to pass this course.** Students who do not satisfy this requirement will be assigned 48% or the aggregate mark, whichever is less.

(b) **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 assignment or test marks from previous years. Previously completed assignments and laboratories cannot be resubmitted.

(c) 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.

Contribution

You are expected to be present for each class and to arrive on time and not depart early. 10% of daily contribution will be deducted for being late to class for more than 10 min. Disruptive or disrespectful behaviour in class will not be tolerated. In general, this means that electronic devices should not be consulted during class time unless for research during in-class group activities. Missing all or part of any class session will result in 0% class contribution for this class session.

Use of English

In accordance with Senate and Faculty Policy, students may be penalised up to 10% of the marks on all assignments, tests, and examinations for the improper use of English. Additionally, poorly written work with the exception of 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.

Course delivery with respect to the COVID-19 pandemic

Although the intent is for this course to be delivered in-person, the changing COVID-19 landscape may necessitate some or all of the course to be delivered online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any assessments affected will be conducted online as determined by the course instructor.

Plagiarism:

Students must write their essays, assignments and examinations 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. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

The University of Western Ontario uses software for plagiarism checking. Students are required to submit their work in electronic form to Turnitin.com for plagiarism checking (accessible through the course website).

Cheating:

University policy states that cheating is a scholastic offence. The commission of a scholastic offence is attended by academic penalties that might include expulsion from the program. If you are caught cheating, there will be no second warning.

For more information on scholastic offenses, please see:

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

Attendance:

Any student who, in the opinion of the instructor, is absent too frequently from class will be reported to the Dean (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean, the student will be debarred from taking the regular final examination in the course.

Accessibility:

Please contact the course instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.

Sickness and Other Problems:**Academic Consideration for Absences**

Students should immediately consult with the instructor if they have any problems that could affect their performance in the course. The student should seek advice from the instructor regarding how best to deal with the problem. Failure to notify the instructor (or as soon as possible thereafter) will have a negative effect on any appeal.

<https://www.eng.uwo.ca/undergraduate/academic-consideration-for-absences.html>

Notice:

Students are responsible for regularly checking their email, course website (<https://owl.uwo.ca>).

Consultation:

Students are encouraged to discuss problems with their teaching assistant and/or instructor in tutorial sessions. Individual consultation can be arranged by appointment with the instructor and/or teaching assistant.

Course breakdown:

Engineering Science = 45% = 22.68 AUs

Engineering Design = 30% = 15.12 AUs

Complementary Studies = 25% = 12.6 AUs