



CIV E 602: Contract Administration
Fall Term 2025

Course Description Construction project and contract administration; budgeting, costing and financial project control; delivery systems; labour relations; safety.

Course Objectives This course provides an overview of the formation of construction contracts, project delivery methods, types of contracts, pitfalls leading to disputes during award and execution of contracts, strategies to reduce and manage these disputes, and administrative functions, such as: Changes and Claims, Documentation, Project Budgeting, Costing, and Financial control, Safety, Quality, Environment and Project Closeout. The course will use actual industrial examples including videos.

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Lectures Wednesday, 11:00 am to 1.30 PM, Edmonton Time
Room: Mechanical Engineering (MEC), 3-1

Mark Distribution	Homework Assignments	30%
	Quizzes	10%
	Project	20%
	Final Exam	40%
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	Total	100%

Recommended Textbooks

Construction Jobsite Management, R. Mincks William & H. Johnston, United States of America: Thomson Learning (1998).

Construction Project Administration, E.R. Fisk & W. Reynolds, (ISBN: 0135000076).

Construction Contracting, R.H. Clough & G.A. Sears, John Wiley & Sons, 6th edition (ISBN: 0471449881).

Other References

Computer Based Construction Project Management, Tarek Hegazy. Prentice Hall (ISBN: 0-13-088859-1).

Professional Construction Management, D.S. Barrie & B.C. Paulson. McGraw-Hill 3rd edition, (ISBN 0-07-003889-9).

Project Management for Construction, C. Hendrickson & T. Au. Prentice Hall, (Call no. HD 9715 A2H39 1989).

A Guide to the Project Management Body of Knowledge, PMI Standards Committee, 1996, (Call no. HD 69 P75G845 1996).

Construction Project Management, R.H. Clough & G.A. Sears. John Wiley, 3rd edition, (Call no. TH 438 C62 1991).

Project Management in Planning and Controlling Construction Projects, H.N. Ahuja, P. Dozzi, & S. AbouRizk, John Wiley, (Call no. HD 9715 A2A418 1994).

Assignments

All assignments are to be submitted on time. ALL Assignments are due at 10:00 AM on the submission date. Late submission up to 24 hours will be graded for ½ credit. Late beyond 24 hours will be graded but no credit. Assignments are to be prepared using a word processor and/or spreadsheet program. Some assignments include group work and oral presentations. All assignments must be turned in. (Be prepared to discuss these assignments in class). Due dates of assignments will be specified on each one.

Project

- Students have to form groups of five (including one team lead) to work on assignments and the course project. Each group must contain students from diverse backgrounds, years of experience, and at least one PhD/MSc student. Each team lead will submit to the TAs a list of the student names in the group by **10-Sep-25**. TAs will review and verify the group structure and then assign a number to each group to be used on all assignments and the course project.
- The class project requires the development of an application, a 6000 to 8000 words Journal Paper in the format of the Engineering, Construction and Architectural Management (ECAM) Journal, and a 15-minute PowerPoint presentation. All three deliverables will be submitted on Canvas in both active files (Word, PowerPoint, etc., format) and PDF format.
- Here is a list of proposed topics for the course project:
 - **Application of Intelligent Supply Chain Management (ISCM) practices to improve the efficiency of Construction Project Procurement.**
 - **Application of Green Supply Chain Management (GSCM) to Decrease Greenhouse Gas (GHG) Emissions from Construction Project Procurement.**
 - **Selection of the Optimum Project Financing Model (PFM) for a Construction Project.**
 - **Smart Contracts for Construction Projects.**
 - **Gamification in Contract Administration.**

- **Augmented Reality (AR) in Contract Administration.**
 - **Improving current Practices of Claim Development and Dispute Resolution.**
 - **Innovative project delivery methods for the construction industry.**
 - **Construction Disputes: Can they be avoided**
 - **Rework in construction – Extent of the problem and ways to reduce it**
 - **Use of constructability model in project delivery**
 - **Use of Insurance and Bonds in the construction industry**
 - **Construction claims**
 - **Framework for selecting a Project Delivery method**
 - **Use of subcontractors to deliver construction projects**
 - **Construction and project risk**
 - **Construction specifications**
- Here is a list of proposed tools for developing the course project:
 - **Blockchain Technology.**
 - **Discrete Event Simulation (DES).**
 - **Agent-based Simulation (ABM).**
 - **Artificial Intelligence (AI) Techniques.**
 - **Large Language Models (LLM) and Chatbots.**
 - **Data Mining & Machine Learning (ML).**
 - **Internet of Things (IoT).**
 - **Phone and Web Applications.**
- The Journal Paper consists of the following sections:
 - **1. Introduction & Background.**
 - **2. Problem Identification.**
 - **3. Literature Review.**
 - **4. Methodology Flowchart.**
 - **5. Development of the Application.**
 - **6. Discussion on the findings of the paper.**
 - **7. Academic & Industrial Contribution.**
 - **8. Conclusion, Research Limitation, and Future Enhancements.**
- No later than **17-Sep-25**, each group has to present a one-page project plan including the selected topic, the selected technique, a schedule for completing the development of the application, and the name of the student responsible for each section of the paper. The TAs will make sure there is no redundancy in project plans and the submitted plans meet our expectations.
 - Each group has to submit the first 4 sections of the paper on **29-Oct-25**
 - The completed Journal Paper, PowerPoint Presentation, and the Project Application have to be presented and submitted on **17 Dec 2025**.
 - Each group has to develop the application according to the proposed topic, research technique, and paper structure. Any major deviation from the plan requires prior approval from the instructor. The focus of class projects is to demonstrate the ability to benefit from what is taught in class, not on the application development. Excellent students' papers may be submitted to the journal for publication.

Web Address

The course will use Canvas. Lecture notes, assignments, and reading material can be downloaded from the web page.

Policies

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the **Student Academic Integrity Policy (SAIP)** available online at:

[https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/DispPol.aspx?PID=193&=
=https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/Academic.aspx](https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/DispPol.aspx?PID=193&=https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/Academic.aspx)

All students have to avoid any behavior which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offense. Academic dishonesty is a serious offense and can result in suspension or expulsion from the University.

The University of Alberta considers plagiarism and cheating to be serious academic offenses. Plagiarism and cheating can be avoided if students are told what plagiarism and cheating are and if possible sanctions are made clear at the outset. Instructors should understand that the principles embodied in the SAIP are essential to our academic purpose. For this reason, instructors will be fully supported by departments, faculties, and the University in their endeavors to rightfully discover and pursue cases of academic dishonesty in accordance with the Policy. When cheating and/or plagiarism occur, a number of penalties can be imposed, such as lowering a grade or expulsion from the University.

Course Outline (Subject to Change during the Course)

Date(s)	Week	Topics	Assignment
Sept. 3	1	<ul style="list-style-type: none"> • Introduction & Review of course outline • Construction Contracts • Bidding Process <ul style="list-style-type: none"> ○ Invitation to Bid ○ Instructions to bidders • Disputes during bidding process. • Quiz No 1 	1: You be the Judge
10	2	<ul style="list-style-type: none"> • Bidding Process Continued • Strategies to Reduce Disputes during bidding process • You Be the Judge Case Studies • Tender Documents • General conditions • Special conditions • Specifications and Drawings • Quiz No 2 	2: Types of Project Delivery Systems
17	3	<ul style="list-style-type: none"> • Project delivery systems (Guest Lecture) <ul style="list-style-type: none"> ○ Design-Bid-Build (DBB) ○ Design-Build (DB) ○ Construction Management (CM) ○ Public-Private Partnership (P3) • Change Conditions, Claims and extras • Constructability • Quiz No 3 Project Delivery Systems 	Group Presentation of Project plan
24	4	<ul style="list-style-type: none"> • Capacity to Bid: The Business Decision. • Prequalification. • NRFP • Tender Documents • General conditions • Special conditions • Specifications • Drawings • Addenda • Quiz No 4 on Prequalifications • Continue Change Conditions, Claims and extras 	3. Constructability Model
Oct 1	5	<ul style="list-style-type: none"> • Budgeting, Costing and Financial Project Control (Guest Lecture) • Group Project Proposal Presentation • Claims Continued • Quiz No 5 • Group presentation of Assignment 2 	4: Preparation of a claim
8	6	<ul style="list-style-type: none"> • Risk allocation and liability sharing • Group Project Proposal Presentation continued • Project organization and division of responsibilities • Project organizational charts • Key personnel • Contract law and labor relations 	

		<ul style="list-style-type: none"> - Law of construction contract - Labor laws - Organizational labor unions 	
15	7	<ul style="list-style-type: none"> • Alternative Dispute Resolution <ul style="list-style-type: none"> - Negotiation - Mediation - Arbitration - Litigation • Quiz No 6 	5: Negotiation
22	8	<ul style="list-style-type: none"> Arbitration Continuation Claims Case Study Mediation Case Study in class discussion You be the Judge case studies • Quiz No 7 	
29	9	<ul style="list-style-type: none"> • No Class 	Submission of the first 4 sections of the project paper
Nov 5	10	<ul style="list-style-type: none"> • Construction Safety (Guest Lecture) <ul style="list-style-type: none"> - Safety Programs - Requirements and Issues - Case Study • Construction Quality <ul style="list-style-type: none"> - Quality programs, ISO - Quality assurance and control • Quality management & Environmental management • Project Startup <ul style="list-style-type: none"> - Site set-up - Permits <p>Quiz No 8</p>	6: Safety
12		<i>Reading week (No classes)</i>	
19	11	<p><i>Contractor negotiation mock session. In class presentation of Assignment</i></p> <p>Dispute Resolution processes: Arbitration Case Study</p> <p>Instructions</p> <ul style="list-style-type: none"> • Quiz No 9 	7 Arbitration Case Study
Nov 26	12	<ul style="list-style-type: none"> • Measurements and progress payments <ul style="list-style-type: none"> - Measuring progress - Cost evaluation - Schedule evaluation - Progress claims - Earned Value Analysis (EVA) • Payments and hold-backs • Documentation and record keeping • Project Closeout <p>Quiz No 10</p>	
Dec.3	13	<i>Assignment 9 presentation: In-class mock Arbitration session</i>	
Dec 10	14	Final Exam	
Dec 17	15	Project presentation and Submission	

Assignment		Due Date	Group Size
1	You Be the Judge	Sept. 24*	Individual
2	Types of project delivery systems	Oct. 1*	Groups of 5-6
3	Constructability	Oct. 8*	Individual
4	Preparation of a claim	Oct. 15*	Groups of 5-6
5	Negotiation assignment & presentation	Nov 5*	Groups of 5-6
6	Safety	Nov 19*	Groups of 5-6
7	Arbitration case study & presentation	Dec 3 *	Large groups in class
8	Final Exam	Dec 10*	Individual
9	Project Presentation	Dec. 17*	Groups of 5-6

***Subject to change**