

New Course EFD Template



College of Engineering

Engineering Faculty Document

No.: 17-26

April 18, 2025

TO: The Engineering Faculty

FROM: The Faculty of the Lyles School of Civil and Construction Engineering

RE: New graduate course – CE 52601 Accounting and Finance for
Construction Managing

The Faculty of the Lyles School of Civil and Construction Engineering has approved the following new graduate course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

FROM (IF ALREADY OFFERED WITH TEMPORARY NUMBER):

CEM 59700: Construction Accounting and Finance

Spring 2023: 43; Spring 30; Spring 2025 19

3 total credits; Online

TO:

CE 52601: Accounting and Finance for Managing Construction

Spring

3 total credits; Residential and Online

No pre-requisites

This course will cover the important topic of accounting and finance with applications for estimating, production, and control of capital projects. Students will learn the entire financial accounting process to include making financial accounting entries for daily financial transactions, and the preparation and understanding of financial statements. Students will also learn how to apply financial accounting, managerial accounting, and finance to improve the accuracy of estimating, production, and control for managing capital projects. With knowledge of accounting and finance, students will learn how to collaborate with the entire company or organizational team including financial personnel. Students will develop practical applications of accounting and finance to important capital project applications.

RATIONALE:

This course is designed to present students with the concepts of accounting and finance for multi-year projects, understanding the difference between cash and accrual methods and decisions associated with the application of major construction equipment for a project and new tools to improve profitability



Head/Director of the Lyles School of Civil and Construction Engineering

Link to Curriculog entry: <https://purdue.curriculog.com/proposal:27454/form>

CE 52601
ACCOUNTING AND FINANCE FOR MANAGING
CONSTRUCTION
Spring Semester

Professors: James J. Adrian, Ph.D., PE, CPA (Visiting Professor)
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TIME	PLACE	CREDITS
Asynchronous	Your Location	3 Credits/Non-Credit

ABSTRACT

Students will learn how to improve construction cost estimates via product costing principles, understand how to estimate and manage equipment effectively, develop control procedures to include accurate and timely calculations of project percent complete, learn how to properly apply and manage company overhead costs, utilize AI principles for predicting and costing labor costs, and learn how to effectively manage and cost change orders and disputes.

TEXTS

Adrian, James. J., Construction Accounting: Financial, Managerial, Auditing and Tax Stipes, Publishing - Reference

DESCRIPTION

This course is conducted via Asynchronous (streaming anytime) distant learning and live Zoom review sessions which means the student will have to self-motivated to watch assigned videos as scheduled and actively participate in scheduled bi-weekly (every other week) ZOOM meetings at which time video lectures will be reviewed, participate discussion of the application of lecture material, and assignments discussed. Each student will answer ten multiple choice questions for each video lecture. Each student will also be required to complete seven assigned exercises. The student will learn:

- ✓ Financial accounting to include financial transactions and financial statements
- ✓ Use of accounting and finance to valuation studies
- ✓ Managerial cost accounting principles to include variance analysis, fixed and variable costs, and time value of money analysis
- ✓ Applications of accounting and finance to estimating
- ✓ Applications of accounting and finance to equipment management and costing

- ✓ Applications of accounting and finance to production and control
- ✓ Applications of accounting and finance to changes and disputes management

OBJECTIVES

Students will understand financial accounting, managerial and finance such that they can collaborate with financial as well as production personnel in their company and/or organization. Students will also learn applications of financial accounting, managerial accounting, and finance for improving the accuracy of estimating, production, and control of capital projects such that they can apply them for their firm/organization.

Students will also develop the skills to create a more effective workforce through application of employee motivation principles and will explore the use of artificial intelligence (AI) to improve cost estimates and manage operational issues.

Class Participation

Students will watch streaming video lectures on fundamentals of financial as well as managerial accounting and finance as well as a broad assortment of applications to estimating, production, and control of capital projects, will answer ten multiple choice questions for each lecture, and will participate in biweekly live Zoom meeting with the instructor(s) and other participants to discuss what they learned from the streaming video lectures.

In addition, individual students as a review of each streaming video lecture will answer ten multiple choice questions. Each student will perform seven exercises in which they will apply course material.

Exam

There will be one assigned take home exercise for the course. This exam will cover how to apply the course material. There will be **no final exam** of the course.

GRADING

The breakdown of the total grade is:

• Multiple choice questions	45
• Assigned exercises (7)	45
• Participation and Timeliness	<u>10</u>
Total	100 %

Final grades will follow straight cut-offs:

> 90% = A; 80 – 89% = B; 70 – 79% = C; 60 – 69% = D; < 60% = F