

## Actuarial Science 425

## Intermediate Topics in Finance and Investment

(see Course Descriptions for the applicable academic year: <http://www.ucalgary.ca/pubs/calendar/>)

*Syllabus*

An overview of selected finance and investment related topics that are relevant to students with an interest, or pursuing careers, in actuarial science, enterprise risk management, financial mathematics, and like areas. Topics include characteristics and uses of financial instruments; sources and cost of capital; portfolio selection; the capital asset pricing model and alternatives; dividend policy; taxation; basic option pricing theory and stock valuation; measurement and assessment of financial performance; risk management; financial analysis and planning.

This course is designed to satisfy the VEE-Corporate Finance requirement of the Society of Actuaries (if the student's grade is eligible for credit prior to July 1, 2019). It may satisfy VEE-Corporate Finance (only Finance, not Accounting) after that date but that is yet to be determined. The recommended text is Principles of Corporate Finance (latest edition) by Brealey, Myers, et al.

This course should cover most of Chapters 1 (and perhaps 2), 4-21, 26, 28 (or whatever chapters in the latest edition of the text correspond to topics in the syllabus). It will probably be impossible to cover all of this material in the classroom so the instructor will need to designate some of this material as reading assignments. Approximately 16 or 17 chapters can probably be covered in class, so each chapter should warrant about 2 hours of classroom time.

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07:07:01 (change from H3-1T to H3-0; prereq clarification for Fall 2009)  
DS/jml

*Course Outcomes*

Actuarial Science 425 – Intermediate Topics in Finance and Investment

Outcomes: Students finishing this course successfully are expected to

1. Define key finance terms and concepts, including different types of firms, personal and corporate taxation, financial instruments – bond, stock, basic options (calls, puts); dividends; price to earnings ratio, capital structure, WACC
2. Describe and apply modern principles and models of corporate finance: mean-variance optimization, CAPM models, Modigliani-Miller propositions

3. Assess financial performance and investment decisions using various measures: balance sheet; income statement; statement of cash flows, financial ratios (e.g., leverage, liquidity, profitability, market value ratios); net present value; the payback, discounted payback models; internal rate of return and profitability index models
4. Conduct sensitivity analysis of the price of bonds
5. Calculate the value of stocks
6. Describe and apply financial concepts to assess risk and return, including: diversifiable and systematic risk, connection between risks and returns, CAPM model, mean-variance portfolio optimization, cost of capital for corporations and projects, impact of market efficiency and taxation.

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08:15:17 (course outcomes added)  
RS  
August 16, 2017 (housekeeping updates) DPMS