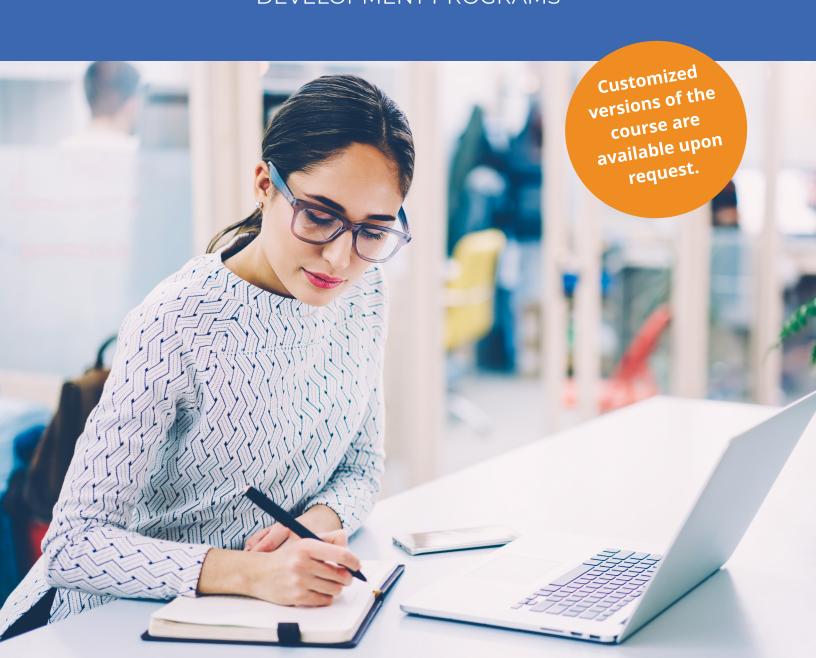


FOR CORPORATE LEARNING & DEVELOPMENT PROGRAMS





WHAT REFAI CERTIFICATION HOLDERS SAY

"The course provides a ton of helpful review material, hands-on modeling exercises, and insightful real estate stories and lessons. When combined with the textbook, the entire experience gives you an invaluable leg up in the industry. All in all, I would recommend this course to anyone trying to learn more about the business and master the technical side of real estate risks and opportunities."

Brooks Arundel

Cushman & Wakefield NYC

"REFAI is a phenomenal course. Thanks for your hard working putting this together. I have taken financial modeling courses before. REFAI is unique because it's the only one that shows how you lose money as a real estate investor through the Excel work, historic examples and scenarios. The chapter interviews and insights are gold."

Brian Dentry

Weitzman

"I just took the final exam for the REFAI course after completing all prior tasks. Incredible course, especially for an experienced analyst looking to get a very in-depth understanding of the equity side of acquisitions. Thanks again for a great course – best CRE training out there."

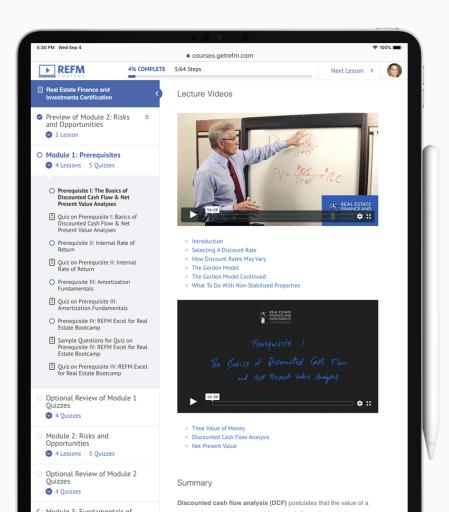
Connor Nolan

Freddie Mac



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PROGRAM OVERVIEW

The Real Estate Finance and Investments Certification (REFAI) from Linneman Associates and Real Estate Financial Modeling is an online rigorous educational self-study program that is focused on practical, high-impact outcomes for its candidates. The overarching goals of the program are to provide candidates with a solid theoretical and technical grounding in real estate finance and investments, and to help candidates become more critical thinkers with respect to the business of real estate across all property and transaction types.

The program curriculum is equal to that of "Real Estate Finance and Investment Analysis 101" semester-long courses delivered in a classroom format in top MBA and Masters in real estate programs.



The backbone of REFAI is the textbook *Real Estate Finance and Investments: Risks and Opportunities*, "the Blue Bible of real estate," authored by Dr. Peter Linneman and Bruce Kirsch. In circulation for 17 years and based on his Wharton classes, the book reflects Dr. Linneman's frustration with texts that concentrate excessively on theoretical detail and literature, while ignoring important aspects of financial analysis and decision making. This book balances the "real world" aspects of real estate finance without compromising key theoretical underpinnings. It covers the basic mathematics of real estate finance and investments, while stressing the ambiguity of decision making.

The book, and the REFAI program by extension, is an exploration of the key concepts of real estate finance and investment strategy, not a mere formulaic analysis of numbers designed to give employees "the answer" to any and all real estate investment decisions.

Holding the REFAI Certification signifies proficiency in this material and the ability to apply that knowledge by overlaying sound analytical frameworks on real world problems. Candidates must earn a minimum passing grade of 70% to complete the requirements for the Program and receive the Certification. Candidates are forewarned that this grade depends upon their performance and passing is not guaranteed.

COMPANY BENEFITS FROM REFAI

Employers are faced with a monumental task in getting employees on par with one another in the principles and practices of real estate investment and development, finance, and Excel-based modeling hard skills. REFAI Certification is here to help by leveling employee knowledge and financial modeling technical skills, promoting more uniform employee development.

REFAI Certification is not a "just show up" credential -- it was designed to be demanding but fair. Not everyone who takes the course will necessarily receive the Certification, as a 70% average score is required to pass. REFAI is your employees' chance to both learn and to demonstrate to you that they have mastered the material.

REFAI can help move your employees along in their development and make them more versatile and powerful problem solvers. As such, REFAI will be a valued asset in your company's professional enrichment program.



Not looking for your employees to pursue a Certification, but want them to learn more about real estate finance and investments for their own enrichment and skill building? REFAI is a perfect way to encourage continued development, even if employees do not pursue the formal Certification that is available through the curriculum.

REFAI CONTENT HIGHLIGHTS

The rigorous REFAI Certification Program examines:

- basic financial analysis and metrics
- dynamic financial modeling in Excel
- selection of discount and capitalization rates
- evaluation of transaction debt capital alternatives
- development feasibility
- lease negotiation
- preferred return, promote and catch-up structures
- corporate rent versus own decisions
- owner exit strategies
- investing internationally
- valuation of properties subject to ground leases
- RFITs
- going public as a real estate company
- real estate entrepreneurship.

SKILLS OBJECTIVES

Upon completion, REFAI Certification Holders will be able to perform in Excel:

- forecasting property income and expense cash flows
- building a mortgage payment schedule with an Interest-Only component
- calculating IRR and NPV
- allocating construction costs according to a bell-shaped curve
- valuing a ground-up development site on a residual basis
- forecasting an asset's future stabilized Net Operating Income
- performing sensitivity analyses around the driving variables in a transaction
- calculating loan interest for multiple layers of debt financing
- evaluating whether a corporation should own or rent facilities.

FORMAT AND TIME COMMITMENT

In addition to reading the textbook, employees will learn online through various media, including recorded video and audio lectures, spreadsheet modeling exercises, multiple choice quizzes and exams.

This program requires 120-160 hours to complete the course content, and complete the exercises, quizzes, midterm and final exams. Lifetime access is provided to all course materials.

Live lectures are available upon request for an additional fee.

PROGRAM ONLINE PLATFORM CONTENTS



Overviews & Summaries



Author Interviews



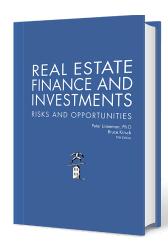
Excel Figure Frameworks



Mobile Flashcards



THE COURSE TEXTBOOK



"A comprehensive look at real estate finance and investments, and also development. But perhaps more importantly, it is written in a way that is clear, direct, and immensely practical to the actual world of real estate."

Brandon Donnelly

Real estate developer with M.A. in architecture

Title: Real Estate Finance and Investments: Risks and Opportunities

Current Edition: 5.1

Authors: Peter Linneman, PhD and Bruce Kirsch

Length: 457 pages

Chapters: 26

Additional Sections: 9
First Published: 2003

University Adoptions: 125+

Unique Features:

- Chapter 1 available as an audiobook
- Hands-on Excel modeling exercises integrated throughout
- 30-page mobile-friendly Online Companion website
- Chapters on Due Diligence and Corporate Real Estate
- · ARGUS platform overview.

SELECT CORPORATE TEXTBOOK ADOPTERS

Blackstone Group

Related Companies

JBG Smith

CBRE Global Investors

Morgan Stanley

Tishman Speyer

Lubert-Adler Real Estate Funds

Freddie Mac

Macerich Company

WPT Industrial REIT

CIM Group

Goldman Sachs International

Shopoff Realty Investments

Regency Centers Corporation

IREI

Ernst & Young LLP

Eurohypo AG

Eastdil Secured

JP Morgan Securities

Angelo Gordon

Alliance Bernstein

CrossHarbor Capital Partners

MB Financial

Marcus & Millichap

CRE Management

Situs Group

SELECT UNIVERSITY TEXTBOOK ADOPTERS

The Wharton School University of California Los Angeles

New York University
Columbia University
Georgetown University
University of Michigan
Ohio State University
University of Arizona

Villanova University

University of Georgia
Clemson University
University of Toronto
Arizona State University

College of Charleston

York University

University of Alabama
University of Memphis

Brigham Young University

Southern Methodist University

University of Hawai'i

University of California Irvine

Roosevelt University

University of Illinois at Chicago

Yale University

University of Washington

Texas A & M University

MEET THE AUTHOR: PETER LINNEMAN, PHD



Peter Linneman, PhD
CEO of Linneman
Associates

40 For over vears, Dr. Peter Linneman's unique blend of scholarly rigor and practical business insight has won him accolades from around the world, including PREA's prestigious Graaskamp Award for Real Estate Research, Wharton's Zell-Lurie Real Estate Center's Lifetime Achievement Award, Realty Stock Magazine's Special Achievement Award, being named "One of the 25 Most Influential People in Real Estate" by Realtor Magazine and inclusion in The New York Observer's "100 Most Powerful People in New York Real Estate".

After receiving both his Masters and Doctorate in Economics under the tutelage of Nobel Prize winners Milton Friedman, Gary Becker, George Stigler, Ted Schultz and Jim Heckman, Peter had a distinguished academic career at both The University of Chicago and the Wharton School of Business at the University of Pennsylvania. For 35 years, he was a leading member of Wharton's faculty, serving as the Albert

Sussman Professor of Real Estate, Finance and Public Policy as well as the Founding Chairman of the Real Estate Department and Director of the prestigious Zell-Lurie Real Estate Center. During this time, he was co-editor of The Wharton Real Estate Review. In addition, he published over 100 scholarly articles, four editions of the acclaimed book Real Estate Finance and Investments: Risks and Opportunities, and the widely read Linneman Letter quarterly report.

Peter's long and ongoing business career is highlighted by his roles as Founding Principal of Linneman Associates, a leading real estate advisory firm; CEO of American Land Fund; and CEO of KL Realty. For more than 35 years, he has advised leading corporations and served on over 20 public and private boards, including serving as Chairman of Rockefeller Center Properties, where he led the successful restructuring and sale of Rockefeller Center in the mid-1990s.

LINNEMAN ASSOCIATES







MEET THE AUTHOR: BRUCE KIRSCH



Bruce Kirsch
CEO of Real Estate
Financial Modeling

As the founder of Real Estate Financial Modeling (REFM), Bruce Kirsch has trained thousands of students and professionals around the world in Excel-based projection analysis. addition, REFM's self-study products, Excel-based templates and its Valuate® property valuation and investment analysis software are used by more than 100,000 professionals. Mr. Kirsch's firm has assisted with modeling for the raising of billions of dollars of equity and debt for individual property acquisitions and developments, as well as for major mixed-use projects and private equity funds. Mr. Kirsch has also maintained a blog on real estate financial modeling, Model for Success, authoring more than 500 posts.

Mr. Kirsch began his real estate career at CB Richard Ellis, where he marketed highrise New York City office buildings for re-development in the Midtown Manhattan Investment Properties Institutional Group. After CBRE, Mr. Kirsch was recruited to lead acquisitions at Metropolis Development Company, and later joined The Clarett Group, a

programmatic development partner of Prudential.

While at The Clarett Group, Mr. Kirsch was responsible for making development site recommendations for office, condominium and multi-family properties in the greater Washington, D.C. metropolitan area. In addition, Mr. Kirsch had significant day-to-day project management responsibilities for the entitlement, financing and marketing of company's existing D.C.-area development portfolio.

Mr. Kirsch holds an MBA in Real Estate from The Wharton School of the University of Pennsylvania, where he was awarded the Benjamin Franklin Kahn/Washington Real Estate Investment Trust Award for academic excellence. Prior to Wharton, Mr. Kirsch performed quantitative equity research on the technology sector at The Capital Group Companies. Mr. Kirsch served as an Adjunct Faculty member in real estate finance at Georgetown University School of Continuing Studies. Mr. Kirsch graduated with a BA in Communication from Stanford University.









PROGRAM MATERIALS AND CURRICULUM



PROGRAM MATERIALS

Included in the program materials are the textbook in hard copy, Module-specific streaming videos, 300+ PDF slides, 8 hours of in-depth author audio discussion on the book, 60 short-form author audio interviews on nuances in chapter topics, as well as 5 REFM Excel-based skills and modeling video tutorials. Also included are replays of quarterly capital markets webinars.

PROGRAM CURRICULUM

Module 1: Prerequisites	Prerequisite I: Discounted Cash Flow & Net Present Value Analyses Prerequisite II: Internal Rate of Return Prerequisite III: Amortization Fundamentals Prerequisite IV: REFM Excel for Real Estate Bootcamp
Module 2: Risks and opportunities; what is real estate?; international real estate	Chapter 1 Introduction: Risks and Opportunities Chapter 2 What is Real Estate and Who Owns It? Chapter 3 International Real Estate Investing REFM Real Estate Finance Bootcamp
Module 3: Fundamentals of commercial leases	Chapter 4 The Fundamentals of Commercial Leases REFM Comparative Lease Analysis Modeling from Landlord and Tenant Perspectives
Module 4: Property-level projection modeling *	Chapter 5 Property-Level Pro Forma Analysis Chapter 6 Financial Modeling
Module 5: Due diligence; capitalization rates	Chapter 7 Real Estate Due Diligence Analysis Chapter 9 The Use and Selection of Cap Rates Chapter 9 Supplements
Module 6: Development pro forma and feasibility analysis	Chapter 10 Development Pro Forma Analysis Chapter 11 Development Feasibility Analysis REFM Office Building Development Modeling Tutorial
Module 7: Debt financing and transaction capital structuring	Chapter 14 Should You Borrow? Chapter 15 The Use of Debt and Mortgages Chapter 13 Distressed Real Estate Loan and Bankruptcy Basics Chapter 16 Sources of Long- and Short-Term Debt

PROGRAM MATERIALS AND CURRICULUM

Continued



PROGRAM CURRICULUM Continued

Module 8: Ground leases; real estate exit strategies *

Chapter 17 | Ground Leases as a Source of Finance Chapter 18 | Real Estate Owner Exit Strategies

Module 9: Real estate companies; real estate private equity

Chapter 12 | Real Estate Company Analysis Chapter 21 | REITs and Liquid Real Estate Chapter 19 | Real Estate Private Equity Funds

REFM Single Transaction Equity JV Waterfall Modeling Bootcamp

Module 10: Real estate cycles and market growth

Chapter 25 | Real Estate Cycles Chapter 8 | Analyzing Metropolitan Long-Term Growth Patterns

Module 11: Investment return profiles; market evolution

Chapter 20 | Investment Return Profiles

Chapter 22 | The Forces Changing the Real Estate Industry Forever

Module 12: Corporate real estate, entrepreneurship and ethics

Chapter 23 | Corporate Real Estate Decision Making

Chapter 24 | Some Observations on Real Estate Entrepreneurship

Chapter 26 | There Are a Lot of Right Ways To Do It

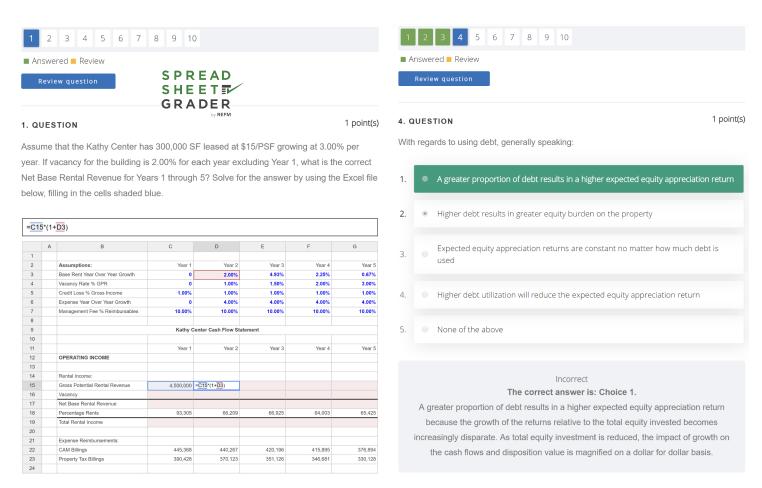
^{*} Includes optional case study assignment.



TESTING AND ASSIGNMENTS

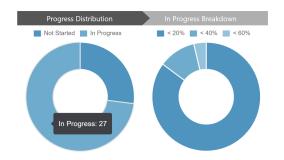
- Online quizzes for each of the 12 Modules are open book, generally subject to a 15-minute time limit.
- Midterm and final exams are open book, subject to a 90-minute time limit.
- All quizzes may be taken more than once, and all provide correct answers and commentary once taken.
- Across the guizzes and exams, candidates will answer more than 500 questions.
- There are 2 optional case studies for completion.

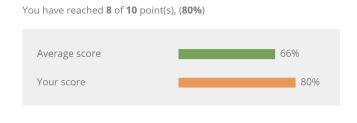
EXAMPLE QUIZ QUESTIONS AND ANSWERS COMMENTARY



GROUP AND INDIVIDUAL PERFORMANCE ASSESSMENT

REFAI is focused on high-impact outcomes. To facilitate learning and tracking of performance, reporting is available at the group level for corporate training administrators, and to candidates.







ABOUT LINNEMAN ASSOCIATES

Linneman Associates is a premier consulting and research firm, specializing in commercial real estate investment strategy. Our clients represent a wide range of industries and countries, but primarily include institutional investors, REITs, developers, and opportunistic private equity firms seeking to implement thoughtful and disciplined investment strategies. Our clients value our market insights and analyses as well as our ability to assess and simplify the ever-changing macroeconomic, political, and capital market environments, particularly as they relate to commercial real estate investing.

For over four decades, Dr. Peter Linneman has been a critical influence in driving the professionalization of real estate capital markets and the commercial real estate industry. Thousands of global and regional real estate investment professionals look to Linneman Associates' insights each quarter through subscriptions to The Linneman Letter.

Dr. Linneman's highly regarded textbook, Real Estate Finance and Investments: Risks and Opportunities is widely adopted by universities and corporate training programs.

ABOUT REAL ESTATE FINANCIAL MODELING

REFM is the premier financial modeling solutions provider for Excel-based financial spreadsheet models, financial modeling training, and financial modeling consulting for real estate transactions of all types.

REFM provides its customers with the advanced financial modeling knowledge, tools and skills they need to successfully model their transactions and present them with confidence internally and to potential partners, lenders and investors. REFM's educational training is offered through digital self-study video tutorials and live group training seminars. REFM also provides private consulting services.

Based in Atlanta, REFM was founded by Bruce Kirsch in 2009. REFM has trained thousands of new and experienced real estate professionals in financial modeling from a wide variety of real estate businesses, organizations and institutions, including private equity, development, brokerage, trade groups and government.

PRICING

- REFAI enrollment for groups of 2 or more is USD \$1,199 per employee.
- Corporate administrator access to employee group performance tracking and score reporting, and private company Q&A forum costs an additional \$999 per year.
- Live lectures are available by textbook and REFAI program co-author Bruce Kirsch at the additional cost of \$1,000 for a 50-minute lecture.

FREQUENTLY ASKED QUESTIONS

THE BOOK AND COURSE MATERIALS

Are the book and its shipping included in the registration cost?

The cost of the hard copy textbook is included no matter where you live. Shipping is free within the US, but it is an additional \$65 if you are located outside of the US.

Is a PDF of the textbook included?

The book is provided in hard copy only. The book is not offered in PDF.

What if my employees already have the Fifth Edition or Edition 5.1 of the book? Do we get a discount?

If your employees already have one of these editions of the book, you can get a \$149 discount per employee.

Do my employees need the Fifth Edition or Edition 5.1 of the book specifically?

Yes. The course content is tied directly to these editions of the book, which are majorly enhanced and updated from prior editions.

Can employees download the course videos?

No, the videos are streaming only. Employees must have a stable broadband Internet connection to view them without experiencing interruptions and file buffering.

Does employee access to the course and its materials expire?

No, employees have lifetime access to everything.

FREQUENTLY ASKED QUESTIONS

COURSE DESIGN

When can employees start the course? How is it paced?

Employees can start the course at any time once they have the textbook in their possession. The course can be self-paced, or completed based on a schedule set by the corporate administrator. The online platform is available 24/7/365.

What is the course syllabus, and what are the contents of the book?

They can be viewed **here**.

Is REFAI Certification applicable for operating apartment buildings, or is it concentrated more on commercial properties?

It applies to both. A key chapter on projection modeling uses an apartment building as the case study.

Are there deadlines to complete the lessons?

Corporate administrators can impose and enforce completion deadlines if they wish.

Can more than one employee use a single seat to the Certification course and get Certified?

No, as each individual candidate must pass quizzes and exams tied to their username, and the quizzes and exams are not accessible again once taken by a candidate.

How long will it take to complete the course?

In addition to reading the textbook, candidates will learn on the online course platform through various media, including recorded video and audio lectures, spreadsheet modeling exercises, multiple choice quizzes and exams. This program requires 120-160 hours to complete the course content, and complete the exercises, quizzes, midterm and final exams. Some have finished in 5 days, others in 300, but the norm is around 90 days.

Lifetime access is provided to all course materials.

Do employees need to pursue the Certification to take the course, or can they take the course just for their own educational growth?

Employees are welcome to take the course just for their own educational enrichment and skill building if they wish.

FREQUENTLY ASKED QUESTIONS

COURSE DESIGN

Is the course system mobile-friendly?

Yes, the learning platform is optimized for phones and tablets. However, we recommend working on Excel on a desktop or laptop for the best experience.

What are the computer and software requirements?

Any computer purchased in the last 5 years, and Excel 2013 or more recent. For best results, we recommend using Google Chrome as your web browser.

Is the course live or recorded?

The course is available on-demand, 24/7/365. All of the videos have been produced in a studio environment and edited to achieve the highest production value.

What support is offered beyond the book and digital materials?

There is an online course forum, with discussion monitored and responded to by Bruce Kirsch, one of the course creators and textbook authors.

Are employees able to see their graded quizzes and midterm and final to understand what questions they got wrong?

Yes, in their learner profiles they have a list of all of the quizzes and links to view the quiz and answer explanations. There are also optional duplicate review quizzes that are ungraded, which employees can use an unlimited number of times to study for the midterm and final.

Are employees allowed to take tests/quizzes multiple times?

Employees cannot take a quiz/test more than once a graded basis. However, there are also optional duplicate review quizzes that are ungraded, which employees can use an unlimited number of times to study for the midterm and final.

Is the course designed to be easy to pass?

REFAI was designed to be demanding but fair. Not everyone who takes the course will receive the Certification, as a 70% average score is required to pass. It is their chance to both learn and to demonstrate to you that they have mastered the material.

FREQUENTLY ASKED QUESTIONS

COURSE DESIGN

An employee has already completed one or more of the REFM Excel for Real Estate Certifications. How is this different?

REFAI is the equivalent of a semester-long "Real Estate Finance and Investment Analysis 101" course given in a traditional university setting. REFM's Excel for Real Estate Certifications are short-format tutorials focused solely on technical skills in Excel as they apply to real estate analyses.

Do employees get credit towards the course for having completed one or more of the REFM Excel for Real Estate Certifications?

If an employee has already earned any of Level 1, 2 or 3 Excel for Real Estate Certification and they do not wish to repeat the content and exam in the course, they can be automatically passed through the relevant lesson(s) and quiz(zes).

Is this course just focused on financial modeling?

No, it is much more. This course is the equivalent of a semester-long "Real Estate Finance and Investment Analysis 101" course given in a traditional university setting. Financial modeling is one aspect of the course, and a critical one, but one of many. The full syllabus and textbook contents can be viewed **here**.

What is the minimum total score needed to pass and achieve the Certification? What about to pass With Distinction?

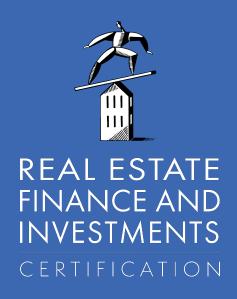
To pass the course, employees must achieve an average score of 70% or better across the entire set of graded quizzes, midterm and final exam. To pass With Distinction, employees must achieve an average score of 85% or better.

What level of Excel knowledge is needed to take the course?

Employees can be a complete beginner and they will be fine. We start from zero and build from there.

Do employees get a physical certificate or a PDF certificate upon passing?

Employees will receive a high-resolution PDF certificate with their name on it, and the With Distinction designation if applicable. Employees may print the certificate themselves or have it professionally printed.



GetREFM.com/REFAI

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