REAL ESTATE FINANCE AND INVESTMENTS

CERTIFICATION



WHAT REFAI CANDIDATES ARE SAYING

"The course is a complete program with both the technical side of the real estate science and the reasoning side. Moreover, the customer service and the quality of digital content are outstanding. I'm thrilled with the program."

Benjamin Duenas

Rome, Italy

"The course is outstanding and the content is great. I didn't expect the amount of accountability associated with passing but think it's awesome. I'm taking the class to learn how to invest my own money, so I take it very seriously. Great job!"

Carter Ransom

Oklahoma

"I am enjoying the course. I specifically like how the videos reinforce the concepts from the book. The guidance for learning in a prescribed order across the various media and quizzes results in an effective program."

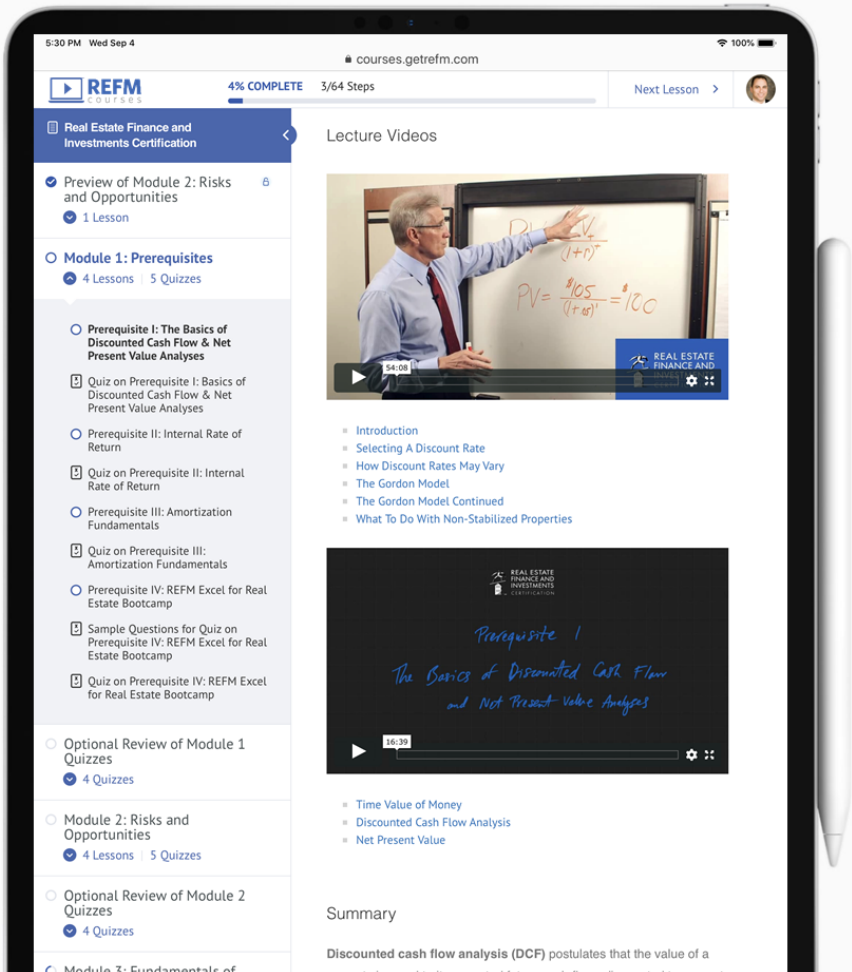
Sam Mishra

New York



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PROGRAM OVERVIEW

The Real Estate Finance and Investments Certification (REFAI) from Linneman Associates and Real Estate Financial Modeling is a 100% 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 5th Edition of 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 15 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 you "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.

WHO REFAI WILL BENEFIT

If you are targeting a career in commercial real estate, or are seeking to move up faster or go out on your own, pursuing REFAI Certification is for you.

It is important to understand that REFAI Certification is not a "just show up" credential. 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 your chance to both learn and to demonstrate you have mastered the material.

If you can put in the requisite time and hard work, and are willing to challenge yourself, then REFAI is for you.

REFAI can help move you along in your career, perhaps by accelerating you by one year, if you are a current student or recent graduate, financial or development analyst/associate, investment sales or leasing broker, land use or transaction attorney, real estate entrepreneur, or construction executive, among other roles.



Not looking to pursue a Certification, but want to learn more about real estate finance and investments for your own educational enrichment and skill building? As a lifelong learner, you are welcome to enroll in REFAI and use its resources for your own edification and reference.

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
- REITs
- 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, 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. Lifetime access is provided to all course materials.

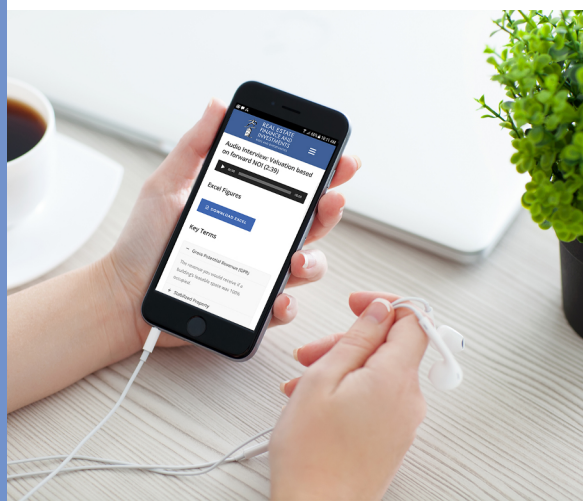
PROGRAM ONLINE PLATFORM CONTENTS

Overviews & Summaries

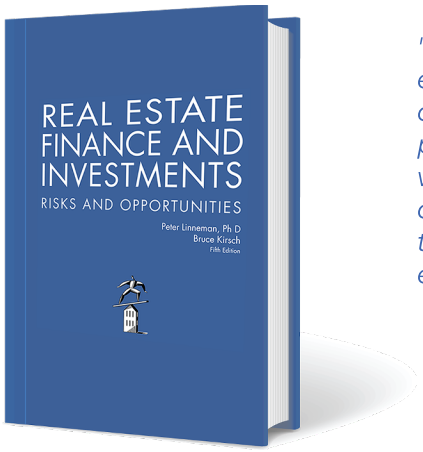
Author Interviews

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: Fifth

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.

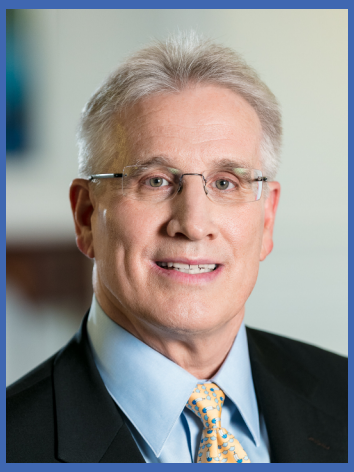
SELECT CORPORATE TEXTBOOK ADOPTERS

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
Drexel 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

For over 40 years, 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

Wharton
University of Pennsylvania

American Land Fund



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. In 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 the 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.

REFM
Model for Success™

GEORGETOWN UNIVERSITY

valuate™ by REFM



PROGRAM MATERIALS AND CURRICULUM

REAL ESTATE FINANCE AND INVESTMENTS CERTIFICATION

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.

PROGRAM CURRICULUM

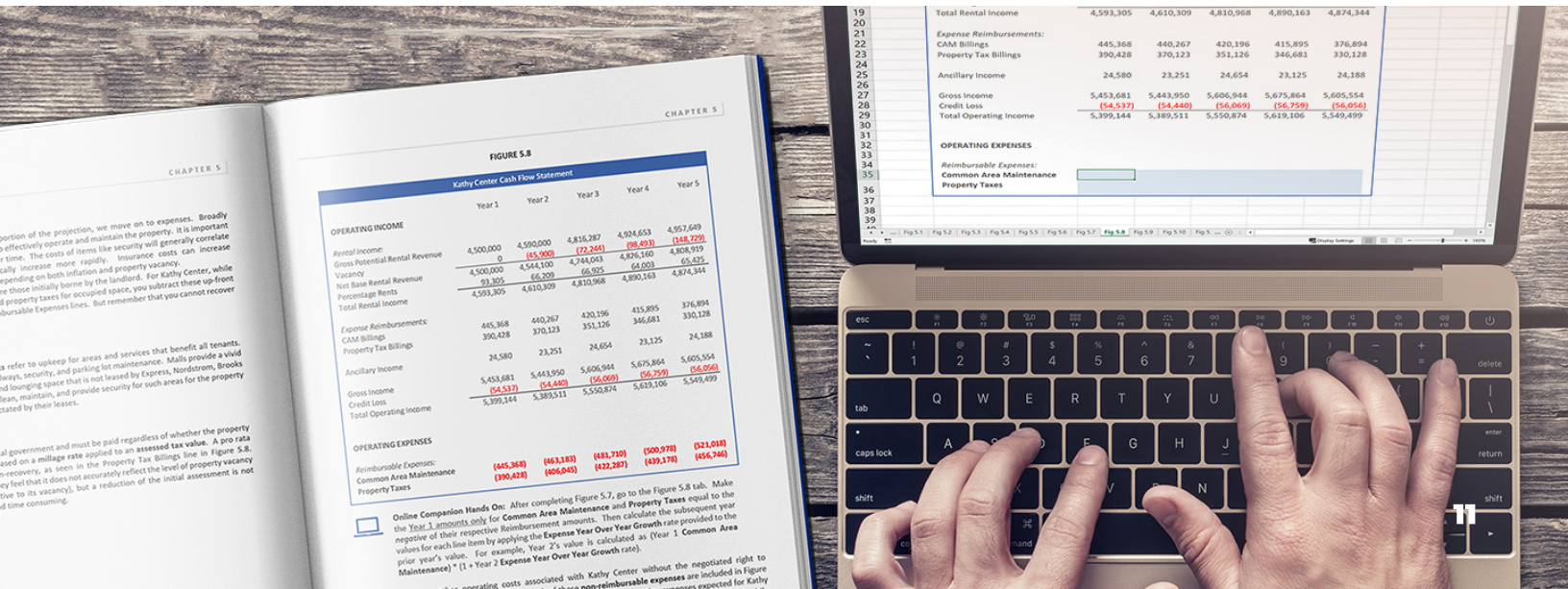
Module 1: Prerequisites	Prerequisite I: Discounted Cash Flow & Net Present Value Analyses Prerequisite II: Internal Rate of Return Prerequisite III: Amortization Fundamentals Prerequisite IV: REFM Excel for Real Estate Bootcamp
Module 2: Risks and opportunities; what is real estate?; international real 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

REAL ESTATE FINANCE AND INVESTMENTS CERTIFICATION

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 quizzes and exams, candidates will answer more than 500 questions.
- There are 2 optional case studies for completion.

EXAMPLE QUIZ QUESTIONS AND ANSWERS COMMENTARY

1 2 3 4 5 6 7 8 9 10

■ Answered ■ Review

Review question

SPREAD SHEET GRADER by REFM

1. QUESTION 1 point(s)

Assume that the Kathy Center has 300,000 SF leased at $15/PSF growing at 3.00% per year. If vacancy for the building is 2.00% for each year excluding Year 1, what is the correct Net Base Rental Revenue for Years 1 through 5? Solve for the answer by using the Excel file below, filling in the cells shaded blue.

=C15*(1+D3)

	A	B	C	D	E	F	G
1							
2		**Assumptions:**	Year 1	Year 2	Year 3	Year 4	Year 5
3		Base Rent Year Over Year Growth	0	2.00%	4.93%	2.25%	0.67%
4		Vacancy Rate % GPR	0	1.00%	1.50%	2.00%	3.00%
5		Credit Loss % Gross Income	1.00%	1.00%	1.00%	1.00%	1.00%
6		Expense Year Over Year Growth	0	4.00%	4.00%	4.00%	4.00%
7		Management Fee % Reimbursables	10.00%	10.00%	10.00%	10.00%	10.00%
8							
9		**Kathy Center Cash Flow Statement**					
10							
11			Year 1	Year 2	Year 3	Year 4	Year 5
12		**OPERATING INCOME**					
13							
14		Rental Income:					
15		Gross Potential Rental Revenue	4,500,000	=C15*(1+D3)			
16		Vacancy					
17		Net Base Rental Revenue					
18		Percentage Rents	93,305	66,209	66,925	64,003	65,425
19		Total Rental Income					
20							
21		Expense Reimbursements:					
22		CAM Billings	445,368	440,267	420,196	415,895	376,894
23		Property Tax Billings	390,428	370,123	351,126	346,681	330,128
24							

1 2 3 4 5 6 7 8 9 10

■ Answered ■ Review

Review question

4. QUESTION 1 point(s)

With regards to using debt, generally speaking:

1. A greater proportion of debt results in a higher expected equity appreciation return
2. Higher debt results in greater equity burden on the property
3. Expected equity appreciation returns are constant no matter how much debt is used
4. Higher debt utilization will reduce the expected equity appreciation return
5. None of the above

Incorrect

The correct answer is: Choice 1.

A greater proportion of debt results in a higher expected equity appreciation return because the growth of the returns relative to the total equity invested becomes increasingly disparate. As total equity investment is reduced, the impact of growth on the cash flows and disposition value is magnified on a dollar for dollar basis.

PERFORMANCE TRACKING AND PROOF OF COMPLETION

Candidates are able to track their own performance in their online account, and can prove their completion of the course with their transcript in addition to their course PDF certificate.

User statistics: bkirsch@getrefm.com (Bruce Kirsch)

	Question	Points	Correct	Incorrect	Hints used	Time (hh:mm:ss)	Points scored	Results
Category: **No category**								
1	The IRR is classically defined as the annual rate of return for a stream of expected (or actual) cash flows that generate an NPV of what? (view)	1	1 (100%)	0 (0%)	0	00:00:09	1	
2	If the IRR of cash flow is greater than the assumed discount rate, which of the following could be assumed: (view)	1	1 (100%)	0 (0%)	0	00:00:15	1	
	What does the IRR not reveal about a							

Transcripts

Print

REAL ESTATE FINANCE AND INVESTMENTS CERTIFICATION

Student Transcript

July 20, 2019

Student Name	Bruce Kirsch



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 registration is USD $1,499 for professionals, and USD $599 for current students and academic faculty/staff. You can learn about academic pricing eligibility and upload your proof of status **here**. Note that you need to re-submit your credentials even if you have already been granted Academic pricing at GetREFM.com.

We offer the chance to pay for the course over time through Affirm. You can apply for this option during the checkout process.

A 20% discount is available for groups of 2 or more. Please email **refai@getrefm.com** to inquire.

FREQUENTLY ASKED QUESTIONS

Where and how do I register?

You can register **here**.

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 to you in hard copy only. The book is not offered in PDF.

What if I already have the Fifth Edition of the book? Do I get a discount?

If you already have the Fifth Edition of the book, you can get a $149 discount. To be granted a coupon code for the discount, please contact us at **refai@getrefm.com**.

Do I need the Fifth Edition of the book specifically?

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

Can I download the course videos?

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

Does my access to the course and its materials expire?

FREQUENTLY ASKED QUESTIONS

COURSE DESIGN

When can I start the course?

You can start the course at any time once you have the textbook in your possession. The course is self-paced and 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?

No. The course is self-paced, and you have lifetime access to it.

Can more than one person use a single purchase of 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. Lifetime access is provided to all course materials.

Do I need to pursue the Certification to take the course, or can I take the course just for my own educational growth?

You are welcome to take the course just for your own educational enrichment and skill building if you 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.

Am I able to see my graded quizzes and midterm and final to understand what questions I got wrong?

Yes, in your learner profile you 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 you can use an unlimited number of times to study for the midterm and final.

Am I allowed to take tests/quizzes multiple times?

You cannot take a quiz/test more than once a graded basis. However, there are also optional duplicate review quizzes that are ungraded, which you 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 your chance to both learn and to demonstrate you have mastered the material.

FREQUENTLY ASKED QUESTIONS

COURSE DESIGN

I already did 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 I get credit towards the course for having completed one or more of the REFM Excel for Real Estate Certifications?

If you have already earned any of Level 1, 2 or 3 Excel for Real Estate Certification and do not wish to repeat the content and exam in the course, please email **refai@getrefm.com** to be verified and 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, you must achieve an average score of 70% or better across the entire set of graded quizzes, midterm and final exam. To pass With Distinction, you must achieve an average score of 85% or better.

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

You can be a complete beginner and you will be fine. We start from zero and build from there.

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

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



REAL ESTATE FINANCE AND INVESTMENTS

CERTIFICATION

GetREFM.com/REFAI

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