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Overview

Course Description

This 15-hour course covers statistics and real estate finance. Sections 1 and 2 provide an introduction to statistics and statistical modeling. It is intended to provide a foundation of statistical concepts and an exposure to regression analysis, which is a widely used statistical valuation model in both appraisal practice and in related real estate research. You will learn about the basic *tools* of statistical analysis and leave with a solid foundation for statistics. Sections 3 and 4 provide an introduction to real estate finance. It is intended to provide insights into real estate finance markets, the numbers and how they are determined, and the linkages between credit conditions, property values, and appraisal practice. A one-hour exam concludes the course.

Section 1 defines *statistics* and describes the two major categories of statistics: descriptive and inferential. The focus is placed on inferential statistics, which is the area in which most individuals have had minimal training and experience, and which is the conceptual basis for most statistical models found in AVMs. There are several key characteristics of the statistics materials. First, coverage of equations is kept to a minimum. Our objective does not include developing statisticians or mathematicians; instead, it helps you focus on developing an appreciation for what statistics can and cannot do for the appraiser. While the discipline of statistics has the advantage of allowing statements about probabilities and confidence, it requires no less judgment than does traditional analysis. Second, this is a hands-on, interactive portion of the course. A good part of class time will be spent working problems. Third, when the class turns to regression analysis, the emphasis will remain on the role of judgment in model building, the importance of proper interpretation of results, and how regression relates to traditional sales comparison.

Parts 1–6 contain the most important content that must be covered. Part 7 introduces extensions and is bonus material that will be covered depending on the time available.

The markets, the numbers, and the value implications are covered in Sections 3 and 4. A brief history of real estate finance provides an appreciation for how and why we got where we are. How interest rates are determined and the role of the Federal Reserve are given special attention as well.

During the majority of Sections 3 and 4, the class learns about how mortgage debt works. How do payment patterns affect the cost of debt? How are loan payments and balances calculated? Most importantly, why are loan payments and balances what they are? Attention is paid to comparing fixed and variable rate loans. The course concludes with an overview of how real estate finance—specifically credit conditions—is reflected in appraisal practice.

This part of the course is intended strictly as an introduction of things to come. An understanding of appraisal models, particularly income approach models, is necessary for a full appreciation of the topic. Hopefully, it will whet your appetite for further study.

By the end of the course, you will be able to

- Work with basic statistics and statistical analysis, and recognize how those skills can be used in valuation

- Describe the essential functions of real estate finance markets; recognize the impact of credit conditions on values and appraisal; and calculate and interpret fundamental numbers, such as loan payments and balances

Note. *Real Estate Finance, Statistics, and Valuation Modeling* was designed according to the broad topical guidelines of the Appraiser Qualifications Board as part of the qualifying (i.e., prelicensing) education for both residential and general certified appraisers. As an introductory treatment of the topics of statistics and real estate finance, the course will be a review of many topics for participants who have already completed these courses as part of their college education. Participants should understand that this course will be a review and will not address more advanced topics.

Learning Enhancements

The course has been designed with a variety of elements to enhance your learning experience.

- ***Preview.*** To give you a taste of what is to come, you will find a *preview* page that begins each part. Included on the *preview* page is a brief overview of the content, learning objectives to consider as you move through the part, and learning tips that will assist you in understanding the information you're about to learn.

- ***Learning Objectives.*** Each learning objective covers essential information you need to know to fully understand the concepts in the course. Look them over before the part begins so that you have a frame of reference as you move through the material. At the end of each part, reread the objectives. Are you able to do what is stated? If not, this is the time to ask your instructor for help. Or, review the concepts that you do not understand.

- ***Practice Test.*** Practice tests are included at the end of Section 2 and Section 4. The questions are similar to the types of questions you might find on the exam. Answering the multiple-choice questions will help you find out whether or not you really know the information that was covered.

- ***Examples & Problems.*** Supplementing the discussions, we've included examples and problems to help you visualize and practice what you are learning.

- ***Bibliography.*** To further your knowledge of statistics and real estate finance, additional sources are suggested in the bibliography.

- **Review.** Each part concludes with a review. Included in the review are the learning objectives and key terms and concepts that have been covered. Also, we've provided recommended readings from textbooks that will reinforce what you have learned in class.

- **Excel Files.** When you registered for the class, you were instructed to download four Excel files that you may wish to use for reference after the course ends. The files contain the data for the following examples in the handbook: Beach Study, Power Line Study, Sale Price Versus Size, and Single-Unit Data.

- **Digging Deeper. Digging Deeper information goes beyond the scope of the course and is not intended to be covered in class. It is not tested on the course exam; however, appraisers preparing for the comprehensive exam should be familiar with it, as well as all other material contained in the Course Handbook, whether or not it is presented in class.**

Classroom Guidelines

To make the class a positive experience for everyone attending, please follow these guidelines:

- 100% attendance is required. No exceptions.

- Limit use of laptops to classroom projects.

- Communicate with business associates during break time instead of class time.

- Put away reading materials such as newspapers and books that are not used in class.

- Silence cell phones.

- Use recording devices only if prior permission has been granted.

- Refrain from ongoing conversations with those seated near you and other distracting behavior.

General Information

- **Calculators.** A financial calculator is required. The recommended model is the HP-12C. Other calculators can be used if participants know how to operate them. No class time will be used to cover the operation of other calculators. **Important Note:** Laptops, cellular phones, tablets, iPads, wearable technology (smart watch, Apple Watch, Google Glass, etc.), and other devices that can store data or connect to the Internet are *NOT* permitted during the exam. In addition, all watches, wallets, bags, and purses must be removed and stored out of reach prior to taking the exam.

- **Excel downloads.** Information about the Excel downloads was provided during course registration. The Excel spreadsheets are not needed for class. They are provided as reference material that you might wish to access after the class ends.

- **Breaks.** There will be two 10-minute breaks during each half-day session unless noted otherwise by the course sponsor. The lunch break is one hour.

- **Attendance sheets** will be distributed during class to verify your attendance during each half-day session.

- **Certificates of completion** may be downloaded after completion of the course, and attendance during the entire course is required.

Recommended Texts

- *An Introduction to Statistics for Appraisers,* Marvin L. Wolverton, Ph.D., 2009

- *The Appraisal of Real Estate,* 15th edition (Chapters 9, 10, 11, and 14, Appendix B), 2020

- *A Guide to Appraisal Valuation Modeling,* George Dell, MAI, SRA, Martin S. Kane, MAI, Mark R. Linne, MAI, SRA, AI-GRS, 2000

- *Practical Applications in Appraisal Valuation Modeling*, Jeffrey A. Johnson, Martin S. Kane, MAI, Mark R. Linne, MAI, SRA, AI-GRS, 2004

- *Real Estate Finance,* 11th ed., J. Keith Baker, Mbition LLC: 2019

Note. The first four books are publications of the Appraisal Institute. The last one can be obtained from various Internet sites.

Exam

The exam has 30 multiple-choice questions. Participants have one hour to complete the exam.

The Florida Regulatory Board requires participants seeking a Florida license or certification to take a 50-question exam with multiple-choice questions. Participants have 90 minutes to complete the Florida exam.