

# Foundations of CFE Exam

Fall 2018/Spring 2019

## Important Exam Information:

<a href="#">Exam Registration</a>	Candidates may register online or with an application.
<a href="#">Order Study Notes</a>	Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.
<a href="#">Introductory Study Note</a>	The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.
<a href="#">Overview study note</a>	Study Note F-20-17 is designed to provide an overview of the CFE Track and this exam. Candidates should read it prior to beginning preparation for the exam. While it can be a valuable aid in preparation, the material in this note will not be tested.
Case Study	A copy of the case study will be provided with the examinations. Candidates will not be allowed to bring their copy of the case study into the examination room.
<a href="#">Past Exams</a>	Past Exams from 2000-present are available on SOA website.
<a href="#">Updates</a>	Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

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Corporate Finance & ERM - Foundations of CFE Exam  
Fall 2018/Spring 2019

<b>1. Topic: Corporate Finance</b>
<b>Learning Objectives</b>
The candidate will understand how a business funds its activities with considerations for its business model, and the cost and constraints on the sources of capital, including other market frictions.
<b>Learning Outcomes</b>
The Candidate will be able to: <ul style="list-style-type: none"><li>a) Identify and critique the available funding sources of any business at its different stages and businesses of various risk profiles and durations</li><li>b) Evaluate capital budgeting approaches and capital structure policy for insurance and non-insurance organizations</li></ul>
<b>Resources</b>
<ul style="list-style-type: none"><li>• <i>Corporate Finance</i>, Berk, Jonathan and Demarzo, Peter, 4<sup>th</sup> Edition, 2017<ul style="list-style-type: none"><li>○ Ch. 8, 18 and 22</li></ul></li><li>• <i>Raising Capital</i>, Sherman, Andrew J., 3<sup>rd</sup> Edition, 2012<ul style="list-style-type: none"><li>○ Ch. 1, 3, 4, 6, 7, 9, 11 and 13</li></ul></li><li>• F-113-14: Securitization, Insurance and Reinsurance</li><li>• F-119-15: Capital Management, Banking's New Imperative</li><li>• F-120-15: Creating Value Through Best-In-Class Capital Allocation</li><li>• F-122-15: The Cross-Section of Hurdle Rates for Capital Budgeting: An Empirical Analysis of Survey Data</li><li>• F-123-15: How Do CFOs Make Capital Budgeting and Capital Structure Decisions?</li></ul>

<b>2. Topic: Capital Management - Decision-Making</b>
<b>Learning Objectives</b>
The candidate will understand how an enterprise's structure and policies allow its management to prioritize and select among projects or business activities that are competing for scarce capital resources especially when opposing factors are key decision criteria.
<b>Learning Outcomes</b>
The Candidate will be able to: <ul style="list-style-type: none"><li>a) Evaluate how the legal form of an organization, corporate governance, compensation dynamics, and other market frictions impact business decisions</li><li>b) Recommend an optimal capital structure and how to implement the structure for a business strategy</li><li>c) Design a risk management plan to optimize the risk reward tradeoff of employed capital</li><li>d) Assess the impact of behavioral factors in capital budgeting methods and capital structure policies</li></ul>
<b>Resources</b>
<ul style="list-style-type: none"><li>• <i>Corporate Finance</i>, Berk, Jonathan and Demarzo, Peter, 4<sup>th</sup> Edition, 2017<ul style="list-style-type: none"><li>○ Ch. 17, 25-27 and 29</li></ul></li><li>• <i>Raising Capital</i>, Sherman, Andrew J., 3<sup>rd</sup> Edition, 2012<ul style="list-style-type: none"><li>○ Ch. 2</li></ul></li><li>• <a href="#"><i>Handbook of the Economics of Finance</i></a>, Vol 2 Part A, 2013, Ch. 5, pp. 357-424</li><li>• F-113-14: Securitization, Insurance and Reinsurance</li><li>• F-120-15: Creating Value Through Best-In-Class Capital Allocation</li><li>• F-121-15: Is the Company Using Its Capital Wisely?</li><li>• F-123-15: How Do CFOs Make Capital Budgeting and Capital Structure Decisions?</li><li>• F-126-15: An International Comparison of Capital Structure and Debt Maturity Choices</li><li>• F-129-15: The Modigliani-Miller Theorem</li><li>• F-132-17: Capital Structure, Executive Compensation, and Investment Efficiency</li></ul>

### 3. Topic: Stochastic Risk Analysis

#### Learning Objectives

The candidate will understand why and when to apply stochastic techniques to develop risk profiles and assess the techniques' efficacy.

#### Learning Outcomes

The Candidate will be able to:

- a) Describe the appropriateness of a given quantification of market and non-market risk exposures
- b) Recommend the use of techniques that balance resource constraints versus model accuracy and appropriateness when applying stochastic techniques
- c) Assess the results of a given application of stochastic modelling
- d) Explain what risk exposures are or are not identified with a given risk metric, assess the implications, and recommend further action

#### Resources

- *How to Measure Anything*, Hubbard, Douglas W., 3<sup>rd</sup> Edition, 2014
  - Ch. 4, 5 and 6
- *Algorithms to Live By*, Christian, Brian and Griffiths, Tom, 2016
  - Ch. 1, 2, 3, 6, 7, 9 and 11
- *Superforecasting: The Art and Science of Prediction*, Tetlock, Phillip E. and Gardner, Dan, 2015
  - Ch. 1, 2, 3, 4, 5 and Appendix (pp. 277-285)
- F-131-16: Heavy Models, Light Models and Proxy Models
- [Layering Your Own Views into a Stochastic Simulation—Without a Recalibration](#), *Risk & Rewards*, Aug 2013

#### 4. Topic: Model Risk Vetting in Risk Management

##### Learning Objectives

The candidate will understand how to identify and recommend appropriate model risk assessment and vetting techniques for risk management models.

##### Learning Outcomes

The Candidate will be able to:

- a) Assess methods and processes for quantifying and managing model risk within any business enterprise
- b) Design and evaluate stress-testing and back-testing processes
- c) Interpret stress-testing and back-testing results

##### Resources

- *How to Measure Anything*, Hubbard, Douglas W., 3<sup>rd</sup> Edition, 2014
  - Ch. 7
- *Measuring Market Risk*, Dowd, Kevin , 2<sup>nd</sup> Edition, 2005
  - Ch. 13, 15 and 16
- *Superforecasting: The Art and Science of Prediction*, Tetlock, Phillip E. and Gardner, Dan, 2015
  - Ch. 1, 2, 3, 4, 5 and Appendix (pp. 277-285)
- [Model Validation for Insurance Enterprise Risk and Capital Models](#) (pp. 1-26, excluding AIG case study)
- [Proposed Actuarial Standards of Practice \(ASOP\) on Modeling](#) (pp. 1-10)

## 5. Topic: Advanced Risk Assessment Techniques for Non-hedgeable Risks

### Learning Objectives

The candidate will understand how and when to apply various advanced techniques to assess non-hedgeable risk or uncertainty in any business enterprise, especially non-financial organizations.

### Learning Outcomes

The Candidate will be able to:

- a) Apply cost of capital frameworks for risk evaluation in business decisions
- b) Assess business opportunities when information is limited or sample size is small
- c) Critique methods for determining long term discount rates beyond what is observable in the capital markets

### Resources

- *How to Measure Anything*, Hubbard, Douglas W., 3<sup>rd</sup> Edition, 2014
  - Ch. 1-3 (background only)
  - Ch. 7-14
- F-107-13: A Market Cost of Capital Approach to Market Value Margins
- F-130-15: Yield Curve Extrapolation: Work in Progress
- [Down But Not Out: A Cost of Capital Approach to Fair Value Risk Margins](#)
- [A Risk Management Tool for Long Liabilities: The Static Control Model](#), 2009 Enterprise Risk Management Monograph