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\[
\begin{align*}
\frac{dX_t}{dt} &= (a_t - bX_t)dt + \sqrt{X_t}c_t dW_{1t} \\
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\frac{dr_t}{dt} &= (\mu X + \theta Y)dt + \sigma_t \sqrt{Y}dW_{3t}
\end{align*}
\]

X short-term component of interest rates
Y long-term component of interest rates & volatility
r riskless interest rate

THE LONGSTAFF-SCHWARTZ MODEL USED BY WALL STREET TO DESCRIBE THE FUTURE EVOLUTION OF INTEREST RATES
— conceived by two of our UCLA Anderson MFE Professors

Professor Francis Longstaff
Founding Faculty Director
UCLA Anderson MFE Program

Professor Eduardo Schwartz
California Chair in Real Estate and Land Economics
UCLA Anderson MFE Program
AS FINANCE BECOMES MORE QUANTITATIVE, THE MFE DEGREE OFFERS A VALUABLE COMPETITIVE EDGE.

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MAKE CONSTANT USE OF YOUR QUANTITATIVE SKILLS. CHALLENGE YOURSELF DAILY. BE CREATIVE IN YOUR APPROACHES. THESE ARE THE REWARDS OF THE MASTERS IN FINANCIAL ENGINEERING (MFE). THE FINANCE INDUSTRY NEEDS PEOPLE WHO POSSESS DEEP MATHEMATICAL MODELING SKILLS AND COMPUTATIONAL EXPERTISE. OUR MFE PROGRAM MEETS THAT NEED BY MERGING MATHEMATICAL, STATISTICAL, AND COMPUTER SCIENCE TOOLS WITH FINANCE THEORY TO EQUIP OUR STUDENTS FOR A HIGHLY REWARDING CAREER — DOING WHAT THEY DO BEST.

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Intro to Derivatives
Corporate Finance & Risk Management
Introduction to Stochastic Calculus
Empirical Methods in Finance
Financial Computing Workshops

SPRING QUARTER (MAR – JUN)

Derivative Markets
Computational Methods in Finance
Fixed Income Markets
Quantitative Asset Management
Financial Institutions Seminar

SUMMER (JUN – SEPT)

Applied Finance Project
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FALL QUARTER (SEP – DEC)

Credit Markets
Financial Engineering Electives
Applied Finance Project
Financial Institutions Seminar

If your interest lies in a career at the nexus of mathematical theory and application, the MFE Program at UCLA Anderson can provide you with the knowledge and practice needed to succeed in the finance industry. Brownian motion, PDEs, Monte Carlo simulations, Poisson Distributions, Serial Correlations — financial engineers (also known as "quants") apply these concepts and many more to build models, solve problems, evaluate opportunities and manage risks in financial markets. The field is not only quantitative, it is also creative and challenging; since financial markets are ever-changing, the data used to build and test models for investing, trading and risk management are constantly evolving.

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Graduates from the MFE Program work in quantitative finance in areas such as:

- mathematical model-building for pricing and risk management
- researching and developing trading strategies
- structuring derivatives transactions
- quantitative investment
- corporate risk management

>> WORLD-CLASS FACULTY

UCLA Anderson MFE faculty are among the best in the world. Consistently top-rated, they are leaders in cutting-edge financial engineering research, as well as the practical implementation of current theory. MFE faculty have developed globally-renowned financial models, including a number that are widely used on Wall Street.

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