FRE 7851 Special Topics: Model Risk Management and Governance

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Model risk management, as currently practiced at leading financial institutions, is a much more comprehensive discipline than model validation alone, which is just one part of a sound model risk regime. This half semester, seven lecture course will explore fourteen of the most pressing challenges today's Model Risk Managers confront in order to carry out the responsibilities described above. Industry standard practices as well as potential alternative approaches for addressing these challenges will be examined over the seven weeks of this course. These are:

1) **Establishing a Comprehensive and Holistic Framework for Model Risk Governance**
2) **Positioning Model Risk as the Fourth Leg of a Firm's Enterprise Risk Management**
3) **Incorporating Big Data and Machine Learning into Model Risk Management**
4) **The Challenge of Challenger Models for CCAR**
5) **Model Identification: Is It a Tool or a Model?**
6) **What to do About Validating Vendor Models?**
7) **Creating and Managing a Complete and Accurate Comprehensive Model Inventory**
8) **Developing A Dynamic Model Inventory**
9) **Identifying and Representing Complex Model Interdependencies**
10) **Validation of Expert Judgment Models**
11) **Verification of Model Input Data Quality**
12) **Tiering Models by Risk Rating**
13) **Assessing Model Risk in the Aggregate**
14) **Improving the Quality of Model and Validation Documentation**

This list of challenges suggests the level of knowledge and expertise in diverse areas to which Model Risk Managers (MRMs) must aspire in order to be effective. Doing so may lead MRMs at some financial institutions to embrace solutions that go well beyond the bar set for model risk management by the Federal Reserve Bank (FRB) and the Office of the Comptroller of the Currency (OCC) in 2011 with the joint release of bulletins SR11-7 and OCC2011-16 [5, 24]. To this point, Sections 3, 8, 9 and 14 describe fertile opportunities for forward-looking firms to elevate their model discipline above the baseline established by SR11-7/OCC2011-16.

The seven lecture series will include a comprehensive review of the 35,000 year history of model risk and an in-depth case study of JPM's London Whale 2012 trading disaster, at the center of which was a deeply flawed firmwide risk model that subordinated high risk trading strategies.

Students who complete this course will be up to date and well informed about the most important model risk management challenges that financial firms are grappling with today. Successful students will possess a sufficient knowledge base to interview with confidence for entry and mid-level positions in model risk management, validation and governance.