The following sections contains the departments latest (2009) Learning Outcomes Assessment Plans in the following order:

1. BBA Actuarial Science
2. BBA Risk Management and Insurance
3. Master of Actuarial Science
4. MS Personal Financial Planning
5. MS Risk Management and Insurance (Mathematical Risk Management)
6. MS Risk Management and Insurance (Risk and Insurance)
BBA ACTUARIAL SCIENCE

Assessment Plan – 2009

MISSION

The BBA in Actuarial Science is designed to prepare students to:

- Have a broader foundation of business courses and quantitative analytical training
- Have introductory-level knowledge on actuarial valuation of insurance liabilities and financial valuation of assets, integrating the actuarial contingencies and the time value of money
- Pass the first two professional exams offered by the Society of Actuaries/Casualty Actuarial Society

OUTCOMES/OBJECTIVES

Outcome/Objective 1: Structure and solve problems

Full Description:
BBA-AS graduates will be able to structure and solve actuarial and related business problems with sound analytical techniques.

Related Measures:
M. 1: Selected and identified quiz questions in AS 4340 Life Contingencies
M. 2: Selected Projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management

Outcome/Objective 2: Comprehension of theoretical & technical materials

Full Description:
BBA-AS graduates will be able to comprehend the theoretical and technical material in appropriate actuarial journals.

Related Measures:
M. 1: Selected and identified quiz questions in AS 4340 Life Contingencies
M. 2: Selected Projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management

Outcome/Objective 3: Mastery of life contingencies

Full Description:
BBA-AS graduates will demonstrate the technical mastery of life contingencies and risk theory. The student will also demonstrate a mastery of actuarial modeling techniques.
Related Measures:
M. 1: Selected and identified quiz questions in AS 4340 Life Contingencies

Outcome/Objective 4: BBA-AS graduates will have passed the first two Society of Actuaries Society of Actuaries/Casualty Actuarial Society professional exams

Full Description: To be recognized as a professional actuary, a person must become a member of the Society of Actuaries or the Casualty Actuarial Society by passing a series of examinations. By graduation, our BBA-AS students will have passed the first two professional exams: Exam P – Probability and Exam FM – Financial Economics.

Related Measures:
M. 4: Completion of first two professional actuarial examinations

MEASURES

M. 1: Selected and Identified Quiz Questions in AS 4340 Life Contingencies

Measure Full Description: Each student will demonstrate through performance on selected and identified quiz questions in AS 4340 Life Contingencies an understanding of the concepts of insurance liabilities, including “interest discounting” and “survival discounting” of actuarial valuation

Related Outcome(s)/Objective(s):
Obj. 1: BBA-AS graduates will be able to structure and solve actuarial and related business problems with sound analytical techniques.

Obj. 2: BBA-AS graduates will be able to comprehend the theoretical and technical material in appropriate actuarial journals.

Obj. 3: BBA-AS graduates will demonstrate the technical mastery of life contingencies and risk theory. The student will also demonstrate a mastery of actuarial modeling techniques.

Target Level: A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure 1 Rubric to a random selection of students during each 4-year evaluation period.

Findings:

M. 2: Selected Projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management

Measure Full Description: Each student will demonstrate through performance on selected projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management an understanding of the sources of uncertainty in a business application.
Related Outcome(s)/Objective(s):
Obj. 1: BBA-AS graduates will be able to structure and solve actuarial and related business problems with sound analytical techniques.

Obj. 2: BBA-AS graduates will be able to comprehend the theoretical and technical material in appropriate actuarial journals.

Obj. 3: BBA-AS graduates will demonstrate the technical mastery of life contingencies and risk theory. The student will also demonstrate a mastery of actuarial modeling techniques.

Target Level: A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure 2 Rubric to a random selection of students during each 4-year evaluation period.

Findings:

M. 3: Identified Exam Questions in AS 4230 Theory of Interest

Measure Full Description: Each student will demonstrate through performance on identified exam questions in AS 4230 Theory of Interest and understanding of the basic concept of compound theory of interest and the term structure of interest rates

Related Outcome(s)/Objective(s):

Obj. 3: BBA-AS graduates will demonstrate the technical mastery of life contingencies and risk theory. The student will also demonstrate a mastery of actuarial modeling techniques.

Target Level: A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure 3 Rubric to a random selection of students during each 4-year evaluation period.

Findings:

M. 4: Completion of first two professional actuarial examinations

Measure Full Description: BBA-AS graduates will have passed the first two professional exams offered by the Society of Actuaries and the Casualty Actuarial Society: Exam P – Probability and Exam FM – Financial Economics.

Related Outcome(s)/Objective(s):

Obj. 4: BBA-AS graduates will have passed the first two Society of Actuaries/Society of Actuaries/Casualty Actuarial Society professional exams (Exam P – Probability and Exam FM – Financial Economics)
Target Level: 70% of our BBA-AS graduates will have taken and passed both Exam P – Probability and Exam FM – Financial Economics by the time they finish the program.

Findings:
### RUBRIC FOR MEASURE ONE - AS 4340 Life Contingencies

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 – Understand Life Tables and Survival Curve</td>
<td>Given a life table, unable to perform actuarial analysis</td>
<td>Given a life table, analysis consistent with entry-level actuarial trainee</td>
<td>Given a life table, analysis consistent with experience actuary</td>
</tr>
<tr>
<td>No. 2 - Concepts and mathematical formulae in valuing life insurance contracts</td>
<td>Given a life table and insurance contract terms, unable to perform actuarial analysis</td>
<td>Given a life table and insurance contract terms, analysis consistent with entry-level actuarial trainee</td>
<td>Given a life table and insurance contract terms, analysis consistent with experience actuary</td>
</tr>
<tr>
<td>No. 3 - Standard products offered by life insurance companies</td>
<td>Not knowing standard products</td>
<td>Knowing products at broad level</td>
<td>Knowing products at detailed level</td>
</tr>
</tbody>
</table>

### RUBRIC FOR MEASURE TWO - RMI 3750 Probability Theory and Simulation Analysis in Risk Management

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 – Apply basic Probability and Statistics in a business risk analysis application</td>
<td>Not able to apply basic probability and statistics in a business risk analysis application</td>
<td>Be able to apply basic probability and statistics in a business risk analysis application</td>
<td>Be able to apply advanced probability and statistics in a business risk analysis application</td>
</tr>
<tr>
<td>No. 2 – Be able to perform simple simulations of standard probability distributions</td>
<td>Given a specification of standard probability distributions, not able to perform simple simulations</td>
<td>Given a specification of standard probability distributions, able to perform simple simulations</td>
<td>Given a specification of standard probability distributions, able to perform simulations and perform analysis of confidence intervals</td>
</tr>
<tr>
<td>No. 3 – Be able to perform some probabilistic analysis given some historical data</td>
<td>Analysis is incorrect or insufficient</td>
<td>Analysis consistent with entry-level actuarial trainee</td>
<td>Analysis consistent with experience actuary</td>
</tr>
</tbody>
</table>
## RUBRIC FOR MEASURE THREE - AS 4230 Theory of Interest

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard =3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 – Understand the time value of money (compounding interest theory)</td>
<td>Not demonstrating understanding of the time valuation of money</td>
<td>Demonstrating broad level knowledge of the time value of money</td>
<td>Demonstrating detailed level knowledge of the time value of money</td>
</tr>
<tr>
<td>No. 2 – Valuation of mortgage (schedules of interest payments and remaining principal)</td>
<td>Not demonstrating knowledge of the various mortgage calculations</td>
<td>Demonstrating broad level knowledge of the various mortgage calculations</td>
<td>Demonstrating detailed knowledge of the various mortgage calculations</td>
</tr>
<tr>
<td>No. 3 – Valuation of Bond and the concept of yield curve</td>
<td>Not demonstrating knowledge of bond valuation and the yield curve</td>
<td>Demonstrating broad level knowledge of bond valuation and yield curve</td>
<td>Demonstrating detailed knowledge of bond valuation and yield curve</td>
</tr>
</tbody>
</table>
MISSION

The BBA in Risk Management and Insurance (RMI) is designed to prepare students to:
- Apply quantitative models to the measurement of business risks
- Assess the hazard risks that are common to business organizations
- Apply the enterprise risk management process to managing risk in business organizations

GOALS

The Goals of the BBA in RMI include the following about Student Learning:
- Students will be able to quantify business risk by applying appropriate modeling tools.
- Students will be able to assess the common property, liability and personnel risks of a business organization.
- Students will be able to apply forecasting techniques to loss data to project the future impact of risks on a business organization.
- Students will be able to apply cash flow analysis to risk financing options as an aid in decision-making.
- Students will be able to explain the enterprise risk management process and apply it to actual business situations through case study.

OUTCOMES/OBJECTIVES

Outcome/Objective 1: Identification and structuring of risky situations

*Full Description:*
Students will be able to recognize risk and uncertainty and their impact on individual, business, and societal decision making. Pertinent risks include those related to the person and property, leverage, longevity, securing future consumption, and asset transfer. Students will be able to take an uncertain situation and determine the nature of the problem(s) to be solved.

*Related Measures:*
M. 1: Selected projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management

Outcome/Objective 2: Modeling risk using quantitative tools

*Full Description:*
Students will be able to take an uncertain situation, and: (1) recognize mathematical, financial and/or statistical tools to be used in solving; and (2) use quantitative tools to model risks and craft alternatives to address them.

*Related Measures:*
M. 1: Selected projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management

Outcome/Objective 3: Comprehension of the business risk management process

Full Description:
Students will have technical comprehension of the business risk management process, including the identification and evaluation of loss exposures, the analysis of the various risk control and financing techniques available to manage the exposures, decision making under conditions of uncertainty, control mechanisms to monitor the results of the risk management program.

Related Measures:
M. 2: Selected projects and identified exam questions in RMI 4300 Business Risk Management

Outcome/Objective 4: Technical knowledge of the Enterprise Risk Management process

Full Description:
Students will have theoretical and technical knowledge of the Enterprise Risk Management (ERM) process. Students will be able to identify and critically analyze the strategies that firms use to enhance corporate value through their risk management function.

Related Measures:
M. 3: Identified exam questions in RMI 4350 Enterprise Risk Management.

MEASURES

M. 1: Selected Projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management

Measure Full Description: Each student will demonstrate through performance on selected projects in RMI 3750 Probability Theory and Simulation Analysis in Risk Management an understanding of the sources of uncertainty in a business application.

Related Outcome(s)/Objective(s):
Obj. 1: BBA-RMI graduates will be able to identify and structure risky situations.

Obj. 2: BBA-RMI graduates will be able to model risk using quantitative tools.

Target Level: A 2.0 average on all criteria, with no more than 20% of any criteria falling in category 1. Measurement will be done by applying the Measure 1 Rubric to a random selection of students during each 4-year evaluation period.

Findings:
**M. 2: Selected Projects and Identified Exam Questions in RMI 4300 Business Risk Management**

*Measure Full Description:* Students will be given the task of identifying and prioritizing the hazard risks of a given business organization through the use of a **Risk Mapping** approach to risk assessment.

*Related Outcome(s)/Objective(s):*

Obj. 3: BBA-RMI graduates will demonstrate comprehension of the business risk management process.

*Target Level:* A 2.0 average on all criteria, with no more than 20% of any criteria falling in category 1. Measurement will be done by applying the Measure 2 Rubric to a random selection of students during each 4-year evaluation period.

*Findings:*

**M. 3: Selected Case Studies and Exam Questions in RMI 4350 Enterprise Risk Management**

*Measure Full Description:* Each student will demonstrate through performance on selected case studies and exam questions in RMI 4350 Enterprise Risk Management theoretical and technical knowledge of the Enterprise Risk Management (ERM) process and the ability to identify and critically analyze the strategies that firms use to enhance corporate value through their risk management function.

*Related Outcome(s)/Objective(s):*

Obj. 4: BBA-RMI graduates will demonstrate technical knowledge of the Enterprise Risk Management process.

*Target Level:* A 2.0 average on all criteria, with no more than 20% of any criteria falling in category 1. Measurement will be done by applying the Measure 3 Rubric to a random selection of students during each 4-year evaluation period.

*Findings:*

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**RUBRIC FOR MEASURE ONE - RMI 3750 Probability Theory and Simulation Analysis in Risk Management**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard =3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 – Apply basic Probability and Statistics in a business risk</td>
<td>Not able to apply basic probability and statistics in a business risk</td>
<td>Be able to apply basic probability and statistics in a business risk</td>
<td>Be able to apply advanced probability and statistics in a business risk</td>
</tr>
<tr>
<td>No. 2 – Be able to perform simple simulations of standard probability distributions</td>
<td>Given a specification of standard probability distributions, not able to perform simple simulations</td>
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<tr>
<td>No. 3 – Be able to perform some probabilistic analysis given some historical data</td>
<td>Analysis is incorrect or insufficient</td>
<td>Analysis consistent with entry-level actuarial trainee</td>
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</tr>
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**RUBRIC FOR MEASURE TWO - RMI 4300 Business Risk Management**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard =3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Assess Property Risks of a Business Organization</td>
<td>Achieve a score below 75% on the property Risk Exam Questions</td>
<td>Achieve a score between 75% and 85% on the Property Risk Exam Questions</td>
<td>Achieve a score above 85% on the Property Risk Exam Questions</td>
</tr>
<tr>
<td>No. 2 - Assess Liability Risks of a Business Organization</td>
<td>Achieve a score below 75% on the Liability Risk Exam Questions</td>
<td>Achieve a score between 75% and 85% on the Liability Risk Exam Questions</td>
<td>Achieve a score above 85% on the Liability Risk Exam Questions</td>
</tr>
<tr>
<td>No. 3 - Assess Personnel Risks of a Business Organization</td>
<td>Achieve a score below 75% on the Personnel Risk Exam Questions</td>
<td>Achieve a score between 75% and 85% on the Personnel Risk Exam Questions</td>
<td>Achieve a score above 85% on the Personnel Risk Exam Questions</td>
</tr>
<tr>
<td>No. 4 - Apply forecasting techniques to loss data to project the future impact of risks</td>
<td>Application in selected student projects is incorrect or insufficient</td>
<td>Application in selected student projects is adequate</td>
<td>Application in selected student projects is superior</td>
</tr>
<tr>
<td>No. 5 - Apply cash flow analysis to risk financing options as an aid in decision-making</td>
<td>Application in selected student projects is incorrect or insufficient</td>
<td>Application in selected student projects is adequate</td>
<td>Application in selected student projects is superior</td>
</tr>
</tbody>
</table>

**RUBRIC FOR MEASURE THREE - RMI 4350 Enterprise Risk Management**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard</th>
</tr>
</thead>
</table>

- **analysis application**
- **analysis application**
- **analysis application**
- **business risk analysis application**
<table>
<thead>
<tr>
<th>No.</th>
<th>Activity Description</th>
<th>Standard = 1</th>
<th>=3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td>Explain the Enterprise Risk Management Process</td>
<td>Application in Exam Question and in cases studies is incorrect or insufficient</td>
<td>Application in Exam Question and in cases studies is adequate</td>
</tr>
<tr>
<td>No. 2</td>
<td>Apply the Enterprise Risk Management Process to actual business situations</td>
<td>Application in selected student case studies is incorrect or insufficient</td>
<td>Application in selected student case studies is adequate</td>
</tr>
<tr>
<td>No. 3</td>
<td>Make strategic recommendations &amp; specific Conclusions about risk management in actual business situations</td>
<td>Application in Exam Question and in cases studies is incorrect or insufficient</td>
<td>Application in Exam Question and in cases studies is adequate</td>
</tr>
</tbody>
</table>
MASTER OF ACTUARIAL SCIENCE

Assessment Plan – 2009

MISSION

The MS in Actuarial Science is designed to prepare students to
Undertake actuarial valuation of liabilities and financial risk modeling of assets for
insurance companies, financial institutions and consulting firms;
Develop integrated thinking and communication skills; and
Pass the early professional actuarial exams offered by the Society of Actuaries and
the Casualty Actuarial Society

OUTCOMES/OBJECTIVES

Outcome/Objective 1: Explanation of technical concepts

Full Description:
The MAS graduate will be able to explain technical concepts to non-actuarial associates
or clients.

Related Measures:
M. 3: Project in AS 8810 Graduate Seminar

Outcome/Objective 2: Concepts of Investment Risk Evaluation

Full Description:
The MAS graduate will have the basic conceptual knowledge and technical skill in
evaluating major types of risks for a typical insurance company’s investment portfolio.

Related Measures:
M. 1: Case studies from current events in AS 8810 Graduate Seminar
M. 2: Case examples using real company balance sheets in AS 8810 Graduate Seminar

Outcome/Objective 3: Concepts of Liability Risk Evaluation

Full Description:
The MAS graduate will have the basic conceptual knowledge and technical skills in
evaluating major types of risks for a typical insurance company’s liability portfolio.

Related Measures:
M. 1: Case studies from current events in AS 8810 Graduate Seminar
M. 2: Case examples using real company balance sheets in AS 8810 Graduate Seminar
M. 3: Project in AS 8810 Graduate Seminar

Outcome/Objective 4: Enterprise Risk and Integration
**Full Description:**
The MAS graduate will have an appreciation of broader enterprise-wide risks and their integrations in insurance companies.

**Related Measures:**
M. 3: Project in AS 8810 Graduate Seminar

**MEASURES**

**M. 1: Case studies from current events in AS 8810 Graduate Seminar**

*Measure Full Description:* Each student will demonstrate through performance on case studies from current events in the AS 8810 Graduate Seminar an understanding of the following:
- Concepts and tools in calculating market risks (stocks, real estate)
- Concepts and tools in calculating credit risks (bond yield spreads, Credit Default Swaps, rating transition matrix)
- Basic shapes of the yield curve and interest rate risk measures (duration and convexity)
- Standard products offered by life insurance companies and property-casualty companies

*Related Outcome(s)/Objective(s):*
- Obj. 2: Have the basic conceptual knowledge and technical skills in evaluating major types of risks for a typical insurance company’s investment portfolio.
- Obj. 3: Have the basic conceptual knowledge and technical skills in evaluating major types of risks for a typical insurance company’s liability portfolio.

*Target Level:* A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure One Rubric to a random selection of student performances on case studies from current events in AS 8810 Graduate Seminar during each 4-year evaluation period.

*Findings*

**M. 2: Case examples using real company balance sheets in AS 8810 Graduate Seminar**

*Measure Full Description:* Each student will demonstrate through performance on a project and case studies in the AS 8810 Graduate Seminar an understanding of the following:
- Concepts and tools in calculating market risks (stocks, real estate)
- Concepts and tools in calculating credit risks (bond yield spreads, Credit Default Swaps, rating transition matrix)
Basic shapes of the yield curve and interest rate risk measures (duration and convexity)
Standard products offered by life insurance companies and property-casualty companies
Concepts and tools in calculating property-casualty loss reserves

Related Outcome(s)/Objective(s):
Obj. 2: Have the basic conceptual knowledge and technical skills in evaluating major types of risks for a typical insurance company's investment portfolio.
Obj. 3: Have the basic conceptual knowledge and technical skills in evaluating major types of risks for a typical insurance company's liability portfolio.

Target Level: A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure Two Rubric to a random selection of student performances on case examples using real company balance sheets in AS 8810 Graduate Seminar during each 4-year evaluation period.

Findings

M. 3: Project in AS 8810 Graduate Seminar

Measure Full Description: Each student will demonstrate through performance on a project in the AS 8810 Graduate Seminar an understanding of the following:
- Standard products offered by life insurance companies and property-casualty companies
- The regulatory environment, the role of rating agencies and investors
- Different accounting (financial reporting) requirements (statutory, GAAP and fair value)

Further, the graduates will have the ability to explain technical concepts to non-actuarial associates or clients.

Related Outcome(s)/Objective(s):
Obj. 1: The MAS graduate will be able to explain technical concepts to non-actuarial associates or clients.
Obj. 3: Have the basic conceptual knowledge and technical skills in evaluating major types of risks for a typical insurance company's liability portfolio.
Obj. 4: Have an appreciation of broader enterprise-wide risks and their integrations in insurance companies.

Target Level: A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure Three Rubric to a random selection of student performances on a project in AS 8810 Graduate Seminar during each 4-year evaluation period.

Findings
# RUBRIC FOR MEASURE ONE - Case studies from current events in AS 8810 Graduate Seminar

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Concepts and tools in calculating market risks (stocks, real estate)</td>
<td>For a given sample portfolio, analysis insufficient or incorrect</td>
<td>For a given sample portfolio, analysis consistent with entry-level actuarial trainee</td>
<td>For a given sample portfolio, analysis consistent with experience actuary</td>
</tr>
<tr>
<td>No. 2 - Concepts and tools in calculating credit risks (yield spreads, Credit Default Swaps, rating transition matrix)</td>
<td>For a given sample portfolio, analysis insufficient or incorrect</td>
<td>For a given sample portfolio, analysis consistent with entry-level actuarial trainee</td>
<td>For a given sample portfolio, analysis consistent with experience actuary</td>
</tr>
<tr>
<td>No. 3 - Basic shapes of the yield curve and interest rate risk measures (duration and convexity)</td>
<td>Not being able to calculate duration and convexity</td>
<td>Being able to calculate duration and convexity</td>
<td>Can use duration and convex to analysis interest rate exposure</td>
</tr>
<tr>
<td>No. 4 - Standard products offered by life insurance companies and property-casualty companies</td>
<td>Not knowing standard products</td>
<td>Knowing products at broad level</td>
<td>Knowing products at detailed level</td>
</tr>
</tbody>
</table>
**RUBRIC FOR MEASURE TWO** - Case studies from current events in AS 8810 Graduate Seminar

<table>
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<tr>
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<tbody>
<tr>
<td><strong>No. 1 - Concepts and tools in calculating market risks (stocks, real estate)</strong></td>
<td>For a given sample portfolio, analysis insufficient or incorrect</td>
<td>For a given sample portfolio, analysis consistent with entry-level actuarial trainee</td>
<td>For a given sample portfolio, analysis consistent with experience actuary</td>
</tr>
<tr>
<td><strong>No. 2 - Concepts and tools in calculating credit risks (yield spreads, Credit Default Swaps, rating transition matrix)</strong></td>
<td>For a given sample portfolio, analysis insufficient or incorrect</td>
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<td>For a given sample portfolio, analysis consistent with experience actuary</td>
</tr>
<tr>
<td><strong>No. 3 - Basic shapes of the yield curve and interest rate risk measures (duration and convexity)</strong></td>
<td>Not being able to calculate duration and convexity</td>
<td>Being able to calculate duration and convexity</td>
<td>Can use duration and convex to analyze interest rate exposure</td>
</tr>
<tr>
<td><strong>No. 4 - Standard products offered by life insurance companies and property-casualty companies</strong></td>
<td>Not demonstrating knowledge of standard products</td>
<td>Demonstrating broad level knowledge of standard products</td>
<td>Demonstrating detailed level knowledge of standard products</td>
</tr>
<tr>
<td><strong>No. 5 - Concepts and tools in calculating property-casualty loss reserves</strong></td>
<td>Not able to perform basic loss triangle development</td>
<td>Able to perform basic loss triangle development using one method</td>
<td>Able to perform basic loss triangle development using multiple methods</td>
</tr>
</tbody>
</table>
**RUBRIC FOR MEASURE THREE** - Project in AS 8810 Graduate Seminar

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
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</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Standard products offered by life insurance companies and property-casualty companies</td>
<td>Not demonstrating knowledge of standard products</td>
<td>Demonstrating broad level knowledge of standard products</td>
<td>Demonstrating detailed level knowledge of standard products</td>
</tr>
<tr>
<td>No. 2 - The regulatory environment, the role of rating agencies and investors</td>
<td>Not demonstrating knowledge of the various regulators and rating agencies</td>
<td>Demonstrating knowledge of the various regulators and rating agencies</td>
<td>Demonstrating knowledge of the various regulators and rating agencies, and the current trends</td>
</tr>
<tr>
<td>No. 3 - Different accounting (financial reporting) requirements (statutory, GAAP and fair value)</td>
<td>Not demonstrating knowledge of major differences in statutory, GAAP and fair value</td>
<td>Demonstrating knowledge of major differences in statutory, GAAP and fair value</td>
<td>Demonstrating knowledge of major differences in statutory, GAAP and fair value, and more details in treatments of specific asset classes</td>
</tr>
</tbody>
</table>
MISSION

The MS in Personal Financial Planning is designed to prepare students to enter the field of financial planning at the planner level; pass the Certified Financial Planner exam; and serve as the foundation for a leadership role in a financial planning firm. It will do so by developing students’ technical expertise in the topics of financial planning and their ability to integrate that expertise to help individuals plan their financial lives.

The MS-PFP provides a more concentrated and in-depth consideration of financial planning topics than is offered by the MBA-PFP and thus better serves the needs of those who are certain of their intent to pursue a financial planning career and assume a leadership position in a financial planning firm.

OUTCOMES/OBJECTIVES

Outcome/Objective 1: Have the overall technical financial planning expertise of at least an entry-level planner.

Full Description:
The MS-PFP graduate will understand the 89 topics of the 2004 CFP Job Analysis at or above the level of an entry-level financial planner. This standard is set by the Certified Financial Planner exam administered by the CFP Board. A passing score on the exam is at least 60%.

Related Measures:
M. 1: Mock CFP Exam taken in PFP 8520 Capstone Course
M. 3: CFP Exam

Outcome/Objective 2: Have the technical financial planning expertise of at least an entry-level planner in each of the six major areas of financial planning.

Full Description:
The MS-PFP graduate will understand each of the major technical areas of PFP (Planning Fundamentals, Income Tax Planning, Insurance Planning, Investment Planning, Retirement Planning, and Estate Planning) at or above the level of a beginning financial planner. This standard is set by the related questions in the Certified Financial Planner exam administered by the CFP Board. A passing score on the exam is at least 60%.

Related Measures:
M. 1: Mock CFP Exam taken in PFP 8520 Capstone Course
Outcome/Objective 3: Have the ability to identify a good client-planner fit, and then gather and organize pertinent personal and financial client data to support an effective analysis of and plan for meeting the client’s financial needs.

Full Description:
The MS-PFP graduate will have the ability to evaluate critically his/her own financial planning strengths and weaknesses and, based thereon, be able to identify those clients and circumstances with which he/she will be most effective in providing advice and guidance.

Related Measures:
M. 4: Planner File prepared in PFP 8520 Capstone Course

Outcome/Objective 4: Have the ability to effectively integrate technical financial planning concepts to assist individuals with meeting their financial needs.

Full Description:
The MS-PFP graduate will be able to integrate each of the major technical areas of PFP (Planning Fundamentals, Income Tax Planning, Insurance Planning, Investment Planning, Retirement Planning, and Estate Planning) by properly analyzing pertinent data, identifying financial needs, and developing objectives, strategies, and an appropriate action plan for meeting those needs.

Related Measures:
M. 2: Financial Plan prepared in PFP 8520 Capstone Course
M. 4: Planner File prepared in PFP 8520 Capstone Course

MEASURES

M. 1: Mock CFP Exam taken in PFP 8520 Capstone Course

Measure Full Description: Each student takes a mock CFP exam. Relative performance across the areas of financial planning are measured, with feedback to the course work in the curriculum and to the design of PFP 8520 itself.

Related Outcome(s)/Objective(s):
Obj. 1: Have the overall technical financial planning expertise of at least an entry-level planner.
Obj. 2: Have the technical financial planning expertise of at least an entry-level planner in each of the six major areas of financial planning.

Target Level: A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure 1 Rubric to all mock exam results in each 4-year evaluation period.

Findings
M. 2: Financial Plan prepared in PFP 8520 Capstone Course

*Measure Full Description:* Each student prepares a financial plan, acquiring a new client and preparing a comprehensive plan on that client. This client is discussed in the class.

*Related Outcome(s)/Objective(s):*
Obj. 4: Have the ability to effectively integrate technical financial planning concepts to assist individuals with meeting their financial needs.

*Target Level:* A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure 2 Rubric to all Financial Plans submitted during each 4-year evaluation period.

*Findings*

M. 3: CFP Exam

*Measure Full Description:* The CFP® Exam is administered three times each year. Many of the program's graduates take this examination and the CFP Board of Standards reports the results to the Program Director. This examination tests competence to become a CFP certificant. The percentage of our graduates passing the examination will be compared to the national average to assess mastery of the technical and analytical skills necessary to practice as a financial planner. The long-range passing percentage for program graduates will be kept and compared with the most recent performance of the graduates and the national performance averages. Each year, the Program Director will analyze the data received from the CFP Board. The Program Director also will use his or her best efforts to monitor the frequency, bases, and nature of any disciplinary action taken by the CFP Board against any graduate of the program and will report the results of this monitoring effort.

*Related Outcome(s)/Objective(s):*
Obj. 1: Have the overall technical financial planning expertise of at least an entry-level planner.

*Target Level:* CFP® Exam pass rates for PFP program students and graduates will be higher than the national average.

*Findings*

M. 4: Planner File prepared in PFP 8520 Capstone Course

*Measure Full Description:* Each student prepares a file of supporting data and analyses, including an analysis of client fit in support of his/her financial plan.

*Related Outcome(s)/Objective(s):*
Obj. 3: Have the ability to identify a good client-planner fit, and then gather and organize pertinent personal and financial client data to support an effective analysis of and plan for meeting the client's financial needs.

*Target Level:* A 2.0 average on all criteria, with no more than 20% of any criteria falling in category. Measurement will be done by applying the Measure 4 Rubric to all Planner Files submitted during each 4-year evaluation period.

*Findings*
<table>
<thead>
<tr>
<th>Criteria</th>
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<th>Exceeds Standard = 3</th>
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<tbody>
<tr>
<td>No. 1 - Concepts of Planning Fundamentals</td>
<td>Achieve a score below 60% on the Planning Fundamentals Questions</td>
<td>Achieve a score between 60% and 70% on the Planning Fundamentals Questions</td>
<td>Achieve a score above 70% on the Planning Fundamentals Questions</td>
</tr>
<tr>
<td>No. 2 - Concepts of Income Tax Planning</td>
<td>Achieve a score below 60% on the Income Tax Planning Questions</td>
<td>Achieve a score between 60% and 70% on the Income Tax Planning Questions</td>
<td>Achieve a score above 70% on the Income Tax Planning Questions</td>
</tr>
<tr>
<td>No. 3 - Concepts of Insurance Planning</td>
<td>Achieve a score below 60% on the Insurance Planning Questions</td>
<td>Achieve a score between 60% and 70% on the Insurance Planning Questions</td>
<td>Achieve a score above 70% on the Insurance Planning Questions</td>
</tr>
<tr>
<td>No. 4 - Concepts of Investment Planning</td>
<td>Achieve a score below 60% on the Investment Planning Questions</td>
<td>Achieve a score between 60% and 70% on the Investment Planning Questions</td>
<td>Achieve a score above 70% on the Investment Planning Questions</td>
</tr>
<tr>
<td>No. 5 - Concepts of Retirement Planning</td>
<td>Achieve a score below 60% on the Retirement Planning Questions</td>
<td>Achieve a score between 60% and 70% on the Retirement Planning Questions</td>
<td>Achieve a score above 70% on the Retirement Planning Questions</td>
</tr>
<tr>
<td>No. 6 - Concepts of Estate Planning</td>
<td>Achieve a score below 60% on the Estate Planning Questions</td>
<td>Achieve a score between 60% and 70% on the Estate Planning Questions</td>
<td>Achieve a score above 70% on the Estate Planning Questions</td>
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RUBRIC FOR MEASURE TWO - Financial Plan prepared in PFP 8520 Capstone Course

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
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</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Data Analysis</td>
<td>Analysis insufficient or incorrect</td>
<td>Analysis consistent with entry-level planner</td>
<td>Analysis consistent with experienced planner</td>
</tr>
<tr>
<td>No. 2 - Identification of Critical Planning Issues</td>
<td>Issue identification insufficient or incorrect</td>
<td>Issue identification consistent with entry-level planner</td>
<td>Issue identification consistent with experienced planner</td>
</tr>
<tr>
<td>No. 3 - Development of Objectives and Strategies to Address Critical Issues</td>
<td>Strategy development insufficient or incorrect</td>
<td>Strategy development consistent with entry-level planner</td>
<td>Strategy development consistent with experienced planner</td>
</tr>
<tr>
<td>No. 4 - Development of Action Plan to Achieve Objectives</td>
<td>Action plan development insufficient or incorrect</td>
<td>Action plan development consistent with entry-level planner</td>
<td>Action plan development consistent with experienced planner</td>
</tr>
</tbody>
</table>

RUBRIC FOR MEASURE FOUR - Planner File prepared in PFP 8520 Capstone Course

<table>
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<tr>
<th>Criteria</th>
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<th>Exceeds Standard = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Identify Good Client-Planner Fit</td>
<td>Identification is insufficient or incorrect</td>
<td>Identification is consistent with entry-level planner</td>
<td>Identification is consistent with experienced planner</td>
</tr>
<tr>
<td>No. 2 - Data Gathering and Organization</td>
<td>Data gathering and organization insufficient or incorrect</td>
<td>Data gathering and organization consistent with entry-level planner</td>
<td>Data gathering and organization consistent with experienced planner</td>
</tr>
</tbody>
</table>
MISSION

The MS RMI degree with a Specialization in Mathematical Risk Management (MRM program) prepares students for careers in quantitative risk management and financial engineering positions emphasizing risk management. Graduates will be qualified for positions in a variety of organizational settings including financial institutions, risk management consultancies, and in the treasury departments of non-financial corporations. The program achieves these goals by emphasizing the application of mathematics in economics and finance to address contemporary risk management problems through the appropriate diagnosis, analysis, pricing, and customization of solutions to risk management problems and opportunities broadly defined to include both financial and operational risk exposures.

The MRM program differentiates itself from an MBA with a concentration in Risk Management and Insurance through:

- More rigorous coverage of mathematical and statistical theory,
- The development of programming skills in a variety of programming languages and econometric software, and
- Specific emphasis on the development of modeling skills of the financial and operational risk exposures of both of traded and non-traded assets and liabilities, asset-backed securities, and other complex financially engineered assets.

GOALS

The Goals of the MS-MRM include the following about Student Learning:

Students will develop an adequate level of technical expertise in the areas of financial economics, insurance economics, actuarial science and modern risk management theory. Students will be able to quantify and analyze a variety of stochastic risk exposures. Students will be able to determine the value of assets and liabilities and document various associated risks. Students will be able to develop firm-wide integrated risk management models and identify and manage the limitations associated with the models.

OUTCOMES/OBJECTIVES

Outcome/Objective 1:

Mathematical and Statistical Theory Expertise

Full Description

The MS-RMI (MRM) graduate will have the technical expertise in mathematical and statistical theory to quantify and analyze various financial and operational stochastic risk exposures.

Related Measures
M. 1: Exams in MRM 8320 Introduction to Stochastic Risk Management Models
M. 2: Selected student projects in ECON 8780 Financial Econometrics
Outcome/Objective 2:

Economic and Financial Theory Expertise

Full Description

The MS-RMI (MRM) graduate will have the technical expertise in economic and financial theory to determine the value of traded and non-traded assets and liabilities and to document the risks associated with the securities.

Related Measures
M. 3: Projects and exams in MRM 8610 Financial Engineering

Outcome/Objective 3:

Development of Firm-wide Integrated Risk Management Models

Full Description

The MS-RMI (MRM) graduate will be able to draw upon theory from financial economics, insurance economics, actuarial science and modern risk management to develop firm-wide integrated risk management models capable of analyzing the costs and opportunities of a firm’s various risk exposures. Students will be able to:

1. Recommend the risks that should be managed and the tools available that will most efficiently achieve the firm’s objectives
2. Identify the limitations of the models and therefore the associated risks of those limitations along with strategies to manage these exposures.

Related Measures
M. 4: Selected student case work in RMI 8370 Financial Risk Management
M. 5: Selected student projects in MRM 8620 Quantitative Financial Models

MEASURES

M. 1: Exams in MRM 8320 Introduction to Stochastic Risk Management Models

Measure Full Description: Each student will demonstrate through responses to selected questions from course exams expertise in the quantification and analysis of operational stochastic risk exposures.

Related Outcome(s)/Objective(s):

Obj. 1: Mathematical and Statistical Theory Expertise

Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure One Rubric to a random sample of student exams submitted during each 4-year evaluation period.

Findings:
M. 2: Selected student projects in ECON 8780 Financial Econometrics

*Measure Full Description:* Each student will demonstrate through performance on selected projects in ECON 8780 Financial Econometrics the technical expertise in mathematical and statistical theory to quantify and analyze various financial stochastic risk exposures.

*Related Outcome(s)/Objective(s):*

Obj. 1: Mathematical and Statistical Theory Expertise

*Target Level:* A 2.0 average on all criteria. Measurement will be done by applying the Measure Two Rubric to a random sample of student projects submitted during each 4-year evaluation period.

*Findings:

M. 3: Projects and exams in MRM 8610 Financial Engineering

*Measure Full Description:* Each student will demonstrate through performance on selected projects and exam questions in MRM 8610 Financial Engineering the technical expertise in economic and financial theory to determine the value of traded and non-traded assets and liabilities and to document the risks associated with the securities.

*Related Outcome(s)/Objective(s):*

Obj. 2: Economic and Financial Theory Expertise

*Target Level:* A 2.0 average on all criteria. Measurement will be done by applying the Measure Three Rubric to a random sample of projected and selected exam responses submitted during each 4-year evaluation period.

*Findings:

M. 4: Selected student case work in RMI 8370 Financial Risk Management

*Measure Full Description:* Each student will demonstrate through performance on selected case work in RMI 8370 Financial Risk Management the ability to recommend appropriately the risks that should be managed and the tools available that will most efficiently achieve the firm’s objectives.

*Related Outcome(s)/Objective(s):*

Obj. 3: Development of Firm-wide Integrated Risk Management Models

*Target Level:* A 2.0 average on all criteria. Measurement will be done by applying the Measure Four Rubric to a random sample of student case work submitted during each 4-year evaluation period.

*Findings:

M. 5: Selected projects in MRM 8620 Quantitative Financial Models

*Measure Full Description:* Each student will demonstrate through performance on selected projects in MRM 8620 Quantitative Financial Models the ability to identify the
limitations of the risk management models and therefore the associated risks of those limitations along with strategies to manage these exposures.

Related Outcome(s)/Objective(s):

Obj. 3: Development of Firm-wide Integrated Risk Management Models

Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure Five Rubric to a random sample of projects submitted during each 4-year evaluation period.

Findings:

RUBRIC FOR MEASURE ONE - Exams in MRM 8320

<table>
<thead>
<tr>
<th>Criteria</th>
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<th>Meets Standard = 2</th>
<th>Exceeds Standard =3</th>
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<tbody>
<tr>
<td>No. 1 – Demonstrate Mathematical Expertise to Quantify Operational Stochastic Risk Exposures</td>
<td>Achieve a score below 60% on selected Quantification Questions</td>
<td>Achieve a score between 60% and 70% on selected Quantification Questions</td>
<td>Achieve a score above 70% on selected Quantification Questions</td>
</tr>
<tr>
<td>No. 2 – Demonstrate Mathematical Expertise to Analyze Operational Stochastic Risk Exposures</td>
<td>Achieve a score below 60% on selected Analysis Questions</td>
<td>Achieve a score between 60% and 70% on selected Analysis Questions</td>
<td>Achieve a score above 70% on selected Analysis Questions</td>
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RUBRIC FOR MEASURE TWO – Student Projects in ECON 8780

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
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<th>Exceeds Standard =3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 – Demonstrate Mathematical Expertise to Quantify Financial Stochastic Risk Exposures</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
<td>Demonstrated expertise is better than adequate</td>
</tr>
<tr>
<td>No. 2 – Demonstrate Mathematical Expertise to Analyze Financial Stochastic Risk Exposures</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
<td>Demonstrated expertise is better than adequate</td>
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### RUBRIC FOR MEASURE THREE – Projects and Exams in MRM 8610

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<tr>
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<tbody>
<tr>
<td>No. 1 – Value Non-Traded Assets and Liabilities</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
<td>Demonstrated expertise is better than adequate</td>
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<tr>
<td>No. 2 – Document Risks Associated with Non-Traded Assets and Liabilities</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
<td>Demonstrated expertise is better than adequate</td>
</tr>
<tr>
<td>No. 3 – Value Traded Assets and Liabilities</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
<td>Demonstrated expertise is better than adequate</td>
</tr>
<tr>
<td>No. 4 – Document Risks Associated with Traded Assets and Liabilities</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
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### RUBRIC FOR MEASURE FOUR – Case Work in RMI 8370

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</thead>
<tbody>
<tr>
<td>No. 1 – Identify Appropriate Risks to be Managed</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
<td>Demonstrated expertise is better than adequate</td>
</tr>
<tr>
<td>No. 2 – Recommend Appropriate Tools to Manage Identified Risks</td>
<td>Recommendations are insufficient or incorrect</td>
<td>Recommendations are adequate</td>
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### RUBRIC FOR MEASURE FIVE – Projects in MRM 8620

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<tr>
<th>Criteria</th>
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</tr>
</thead>
<tbody>
<tr>
<td>No. 1 – Identify the Limitations of Risk Management Models</td>
<td>Demonstrated expertise is insufficient or incorrect</td>
<td>Demonstrated expertise is adequate</td>
<td>Demonstrated expertise is better than adequate</td>
</tr>
<tr>
<td>No. 2 – Recommend Appropriate Strategies to Manage Identified Limitations of Risk Management Models</td>
<td>Recommendations are insufficient or incorrect</td>
<td>Recommendations are adequate</td>
<td>Recommendations are better than adequate</td>
</tr>
</tbody>
</table>
MS-Risk Management and Insurance

Assessment Plan – 2009

MISSION

The mission of the MS RMI degree with a specialization in Risk and Insurance is to educate students in the theory and practice of risk management and insurance at an advanced level through a customized program of study. Further concentration within this specialization is possible – although not required – through selection of one of three tracks: risk management, insurance, or employee benefits. The program is designed to prepare students for analytical and technical staff, consulting, and applied research positions in risk management, employee benefits, and insurance. The program is suited especially to the needs of students who have undergraduate business degrees or MBA degrees and who desire further coursework in risk and insurance to enhance their professional careers.

Students will enter the program with various backgrounds (accounting, finance, CIS, economics, or general business) and we allow a program of study specific to the student’s career goals. However, we have three courses common to all students in the program. The first is RMI 8050 which is a course in statistical modeling and simulation of firm assets and liabilities. The second course, RMI 8300, in modeling provides the students with background in additional statistical tools for prediction models. The final common course, RMI 8150, is a capstone course in corporate risk management. This course integrates the risk management problem for the firm focusing on all sources of risk to the firm to develop a comprehensive strategy for the management and financing of firm risk.

OUTCOMES/OBJECTIVES

Outcome/Objective 1: Master the Goals and Objectives of Enterprise Risk Management

Full Description:
The MS-RMI graduate will master the elements of the risk management process, and be able to integrate risks across an organization into a coherent measure of risk and develop a sophisticated risk management plan that focuses on decisions on how to retain, avoid, manage, and finance risk in an integrated manner.

Related Measures:
M.3: Final Exam in RMI 8150
M.4: ERM Case Study in RMI 8150

Outcome/Objective 2: Risk Management Modeling

Full Description:
The MS-RMI the basics of risk management modeling by demonstrating the sophisticated ability to

1. Properly Model the valuation of non-traded assets or liabilities.

2. Know which technique to use to solve a problem not directly covered in class.

3. Demonstrate a sophisticated understanding of various predictive modeling tools.
4. Know which techniques to use to solve a problem not directly covered in class.

5. Properly test models for accuracy and usability

6. To effectively communicate the results of models to superiors and peers.

Related Measures:
M.1: Final Project in RMI 8050
M.2: Final Exam in RMI 8050
M.5: Homework Assignments in RMI 8300
M.6: Final Exam in RMI 8300
M.7: Project Presentations in RMI 8150 and 8300E

Outcome/Objective 3: Integration of Finance, Economics, Actuarial Science

Full Description:
The MS-RMI graduate will be able to integrate of finance, economics, and actuarial science into the study of risk management and the development of risk management solutions.

Related Measures:
M.3: Final Exam in RMI 8150

MEASURES

M.1: Final Project in RMI 8050

Measure Full Description: MS-RMI students will demonstrate in the final project for the RMI 8050 the sophisticated ability to properly model the valuation of non-traded assets or liabilities.

Related Outcome(s)/Objective(s):
Obj. 2: Risk Management Modeling
Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure 1 Rubric to randomly-selected Final Projects submitted in each 4-year evaluation period.

Findings

M.2: Final Exam in RMI 8050

Measure Full Description: Each final exam will have one or more questions which will require the student to demonstrate knowledge of the following:
- which techniques to solve a problem not directly covered in class
- how to properly test models for accuracy and usability

Related Outcome(s)/Objective(s):
Obj. 2: Risk Management Modeling
Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure 2 Rubric to randomly-selected final exams taken during each 4-year evaluation period.

Findings

M.3: Final Exam in RMI 8150

Measure Full Description: Each final exam will have one or more questions which will require the student to demonstrate mastery of the elements of the risk management process. Use of theories or practices of finance, economics, and actuarial science in an integrated manner

Related Outcome(s)/Objective(s):
Obj. 1: Master the Goals and Objectives of Enterprise Risk
Obj. 3: Integration of Finance, Economics, Actuarial Science

Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure 3 Rubric to randomly-selected final exams taken during each 4-year evaluation period.

Findings

M.4: ERM Case Study in RMI 8150

Measure Full Description: MS-RMI students will demonstrate in an ERM case study in RMI 8050 the ability to integrate risks across an organization into a coherent measure of risk and to develop a sophisticated risk management plan that focuses on decisions on how to retain, avoid, manage, and finance risk in an integrated manner.

Related Outcome(s)/Objective(s):
Obj. 1: Master the Goals and Objectives of Enterprise Risk

Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure 4 Rubric to randomly-selected ERM case study performances during each 4-year evaluation period.

Findings

M.5: Homework Assignments in RMI 8300

Measure Full Description: Students will demonstrate through performance on selected homework assignments in RMI 8300 a sophisticated understanding of various predictive modeling tools.

Related Outcome(s)/Objective(s):
Obj. 2: Risk Management Modeling
Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure 5 Rubric to randomly-selected homework assignments submitted during each 4-year evaluation period.

Findings

M.6: Final Exam in RMI 8300

Measure Full Description: Each final exam will have one or more questions which will require the student to demonstrate knowledge of the following:
- which techniques to solve a problem not directly covered in class
- how to properly test models for accuracy and usability

Related Outcome(s)/Objective(s):
Obj. 2: Risk Management Modeling

Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure 6 Rubric to randomly-selected final exams taken during each 4-year evaluation period.

Findings

M.7: Project Presentations in RMI 8150 and 8300E

Measure Full Description: MS-RMI students will demonstrate in a project presentation in either RMI 8050 or RMI 8300E the ability to effectively communicate the results of models to superiors and peers.

Related Outcome(s)/Objective(s):
Obj. 2: Risk Management Modeling

Target Level: A 2.0 average on all criteria. Measurement will be done by applying the Measure 7 Rubric to randomly-selected project presentations given during each 4-year evaluation period.

Findings

RUBRIC FOR MEASURE ONE - Final Project in RMI 8050

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<tr>
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</thead>
<tbody>
<tr>
<td>No. 1 - Sophisticated Ability to Properly Model the Valuation of Non-traded Assets or Liabilities</td>
<td>Achieve a score below ___%</td>
<td>Achieve a score between ___% and ___%</td>
<td>Achieve a score above ___%</td>
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**RUBRIC FOR MEASURE TWO** - Final Exam in RMI 8050

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>No. 1 - Techniques to Solve a Problem Not Directly Covered in Class</td>
<td>Achieve a score below __% on the New Problems Questions</td>
<td>Achieve a score between __% and ___% on the New Problems Questions</td>
<td>Achieve a score above ___% on the New Problems Questions</td>
</tr>
<tr>
<td>No. 2 - Properly Test Models for Accuracy and Usability</td>
<td>Achieve a score below __% on the Model Test Questions</td>
<td>Achieve a score between ___% and ___% on the Model Test Questions</td>
<td>Achieve a score above ___% on the Model Test Questions</td>
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**RUBRIC FOR MEASURE THREE** - Final Exam in RMI 8150

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</thead>
<tbody>
<tr>
<td>No. 2 - Use of Theories or Practices of Finance, Economics, and Actuarial Science in an Integrated Manner</td>
<td>Achieve a score below ___% on the Discipline Integration Questions</td>
<td>Achieve a score between ___% and ___% on the Discipline Integration Questions</td>
<td>Achieve a score above ___% on the Discipline Integration Questions</td>
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**RUBRIC FOR MEASURE FOUR** - ERM Case Study in RMI 8150

<table>
<thead>
<tr>
<th>Criteria</th>
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</thead>
<tbody>
<tr>
<td>No. 1 - Integrate Risks Across an Organization into a Coherent Measure of Risk</td>
<td>Achieve a score below ___%</td>
<td>Achieve a score between ___% and ___%</td>
<td>Achieve a score above ___%</td>
</tr>
<tr>
<td>No. 2 - Develop a Sophisticated Risk Management Plan that Focuses on Decisions on How To Retain, Avoid, Manage, and Finance Risk in an Integrated Manner</td>
<td>Achieve a score below ___%</td>
<td>Achieve a score between ___% and ___%</td>
<td>Achieve a score above ___%</td>
</tr>
</tbody>
</table>
## RUBRIC FOR MEASURE FIVE – Homework Assignments in RMI 8300

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Sophisticated Understanding of Various Predictive Modeling Tools</td>
<td>Achieve a score below __%</td>
<td>Achieve a score between __% and ___%</td>
<td>Achieve a score above ___%</td>
</tr>
</tbody>
</table>

## RUBRIC FOR MEASURE SIX - Final Exam in RMI 8300

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Techniques to Solve a Problem Not Directly Covered in Class</td>
<td>Achieve a score below __% on the New Problems Questions</td>
<td>Achieve a score between __% and ___% on the New Problems Questions</td>
<td>Achieve a score above ___% on the New Problems Questions</td>
</tr>
<tr>
<td>No. 2 - Properly Test Models for Accuracy and Usability</td>
<td>Achieve a score below __% on the Model Test Questions</td>
<td>Achieve a score between __% and ___% on the Model Test Questions</td>
<td>Achieve a score above ___% on the Model Test Questions</td>
</tr>
</tbody>
</table>

## RUBRIC FOR MEASURE SEVEN – Project Presentations in RMI 8150 and 8300

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fails to Meet Standard = 1</th>
<th>Meets Standard = 2</th>
<th>Exceeds Standard = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 4 - Effectively Communicate the Results of Models to Superiors and Peers</td>
<td>Achieve a score below ___%</td>
<td>Achieve a score between ___% and ___%</td>
<td>Achieve a score above ___%</td>
</tr>
</tbody>
</table>