



**Office of Enterprise Risk Management**

# **Enterprise-Wide Risk Assessment 2011 - 2012**

**Report to the  
Board of Trustees**

*Recognizing and managing significant risks are  
essential to the successful achievement of University goals*

**May 31, 2012**



# University of Illinois

## 2011-2012 Enterprise-Wide Risk Assessment

### Introduction

The second *Enterprise-Wide Risk Assessment* has been conducted by the University Office of Enterprise Risk Management. The general purpose of the annual assessment is to raise the overall level of risk consciousness among University stakeholders. It provides a framework for developing and implementing mitigation strategies for those risks judged to have unacceptably high impacts and reasonable likelihood of occurrence.

The ability to recognize and manage significant risks is essential to the successful achievement of University goals. The overall Enterprise Risk Management process is designed to promote a balanced view of risk, where there is recognition that success often requires a certain amount of calculated risk-taking. While the current assessment concentrates solely on risks which are judged to be detrimental to the achievement of University goals, opportunistic risk will be a key component of the institution's future success.

The intent of this report is to provide the Board of Trustees, University leadership and other stakeholders an inventory of significant risks ranked through a function of impact, likelihood, effectiveness of existing controls and timeframe. The report also includes a brief discussion of University risk culture.

## Risk Assessment Process

The risk assessment process is conducted annually. The assessment is conducted in four steps, as summarized in Table 1, below:

**Table 1: Enterprise-Wide Risk Assessment**

Assessment Phase	Participants	Purpose
<b>DISCOVERY</b> (August -September)	Trustees, risk committees, leadership	Strategic risk discussions about goals, risk environment and emerging risks
<b>EVALUATION</b> (October - February)	Risk owners	Gather data on specific key risks and prepare analyses
<b>COMMUNICATION</b> (March)	Board of Trustees, leadership and other stakeholders	Report on top risks and other risk-related issues
<b>RESPONSE</b> (March - July)	Risk owners and leadership	Conduct risk mitigation discussions; champion strategy implementation

The first three phases -- Discovery, Evaluation and Reporting – represent the *information gathering* component. Discovery and Evaluation have been completed. This report represents the third phase – Communication.

The fourth phase, Response, is new this year and represents the *action* component of the overall assessment process. Activities related to Response commenced in March 2012, consistent with campus budgeting cycles.

The current assessment was conducted under a more rigid framework than the initial review in 2010-2011. Among other changes, a uniform risk scale was introduced in order to improve comparisons among diverse risks. Each risk was measured in terms of three key variables:

impact, likelihood and existing control effectiveness.<sup>1</sup> The product of these three variables represents the overall *Risk Score*. Figure 1, below, shows the risk scales used in the current assessment.

**FIGURE 1: Risk Scale**

IMPACT		CONTROL EFFECTIVENESS		LIKELIHOOD	
Score	Definition (Financial / Non-Financial)	Score	Definition	Score	Definition
5	Greater than \$50 million	5	Little or no effectiveness	5	Almost certain; expected to occur
	Or Extreme reputational impact				
4	\$25 million to \$50 million	4	Effective some of the time	4	Likely; probably will occur
	Or High reputational impact				
3	\$5 million to \$25 million	3	Generally effective	3	Possible; might occur at some time
	Or Medium to low reputational impact				
2	\$100,000 to \$5 million	2	Effective most of the time	2	Unlikely; could occur at some time
	Or Low to no reputational impact				
1	Less than \$100,000	1	Maximum effectiveness	1	Rare; may occur
	Or No reputational impact				

$$\text{Risk Score} = \text{Impact} \times \text{Control Effectiveness} \times \text{Likelihood}$$

Risk Score values are used to screen and rank the diverse risks being reviewed. They also provide a high-level road map for response as shown in Figure 2, below:

<sup>1</sup> Although the analysis was structured so that each of these variables could be reviewed independently, complete independence is unlikely.

**FIGURE 2: Response Scale**

Risk Score *	Consequences	Immediate Actions	Response Choices ** (Individual or Combinations)
Very High Risk (101-125)	Extreme financial loss; extreme reputational impact	Requires essential and immediate allocation and organization of resources to manage/mitigate the risk; establish plans and countermeasures.	<p>Avoid</p> <p>Share</p> <p>Reduce</p> <p>Accept</p>
High Risk (76-100)	High financial loss; high reputational impact	Requires priority allocation of resources for management and/or mitigation; establish plans and countermeasures.	
Moderate Risk (51-75)	Moderate financial loss; medium to low reputational impact	Allocation of resources for study is desirable; risk should be monitored for increases in impact or likelihood.	
Low Risk (26-50)	Low financial loss; low to no reputational impact	Generally does not require action, but should be reviewed periodically.	
Very Low Risk (1-25)	Negligible financial loss; no reputational impact	No action required.	

\* Risk Score = Impact x Likelihood x Control Effectiveness

\*\* No implication is made that a Very High Risk should be Avoided or a Very Low Risk should be Accepted

Risk information was gathered during the Discovery and Evaluation phases of the assessment through a series of approximately 50 individual and group interviews with Trustees, University and campus leadership, risk owners and other stakeholders. While the Discovery meetings focused more on issues of risk environment, information on specific risks was compiled primarily during the Evaluation interviews. Risk Abstract forms were used to document each Evaluation interview.

## Results

Eighty-two financial and non-financial threats were reviewed during the current assessment. These eighty-two risks represent the Risk Portfolio for 2011-2012.

While the Risk Portfolio presents the most significant risks reviewed during the assessment, no implication is made that other risks do not exist.

The interviewees scored risks in their respective areas in terms of impact, likelihood and existing control effectiveness using the scales shown in Figure 1. Where both financial and non-financial impacts were identified, the higher of the two impact scores was used to calculate the overall Risk Score.

### Risk Results by Risk Score

The University's overall risk profile is presented in Figure 3, below. This figure shows the frequencies of occurrence of all 82 Risk Scores observed during the assessment. The bars represent how many times a particular Risk Score occurred during the review. The blue line shows the cumulative distribution of all Risk Scores.

The median<sup>2</sup> Risk Score is 24, which would fall in the *Very Low Risk* category. The mode<sup>3</sup> is 36, which would fall in the *Low Risk* category. While these statistics suggest the University's overall profile is in a lower risk category, they do not mean that there are not significant risks. There are outliers in the Very High and High categories that pose significant risk. These risks will be the focus of the forthcoming Response phase of the assessment.

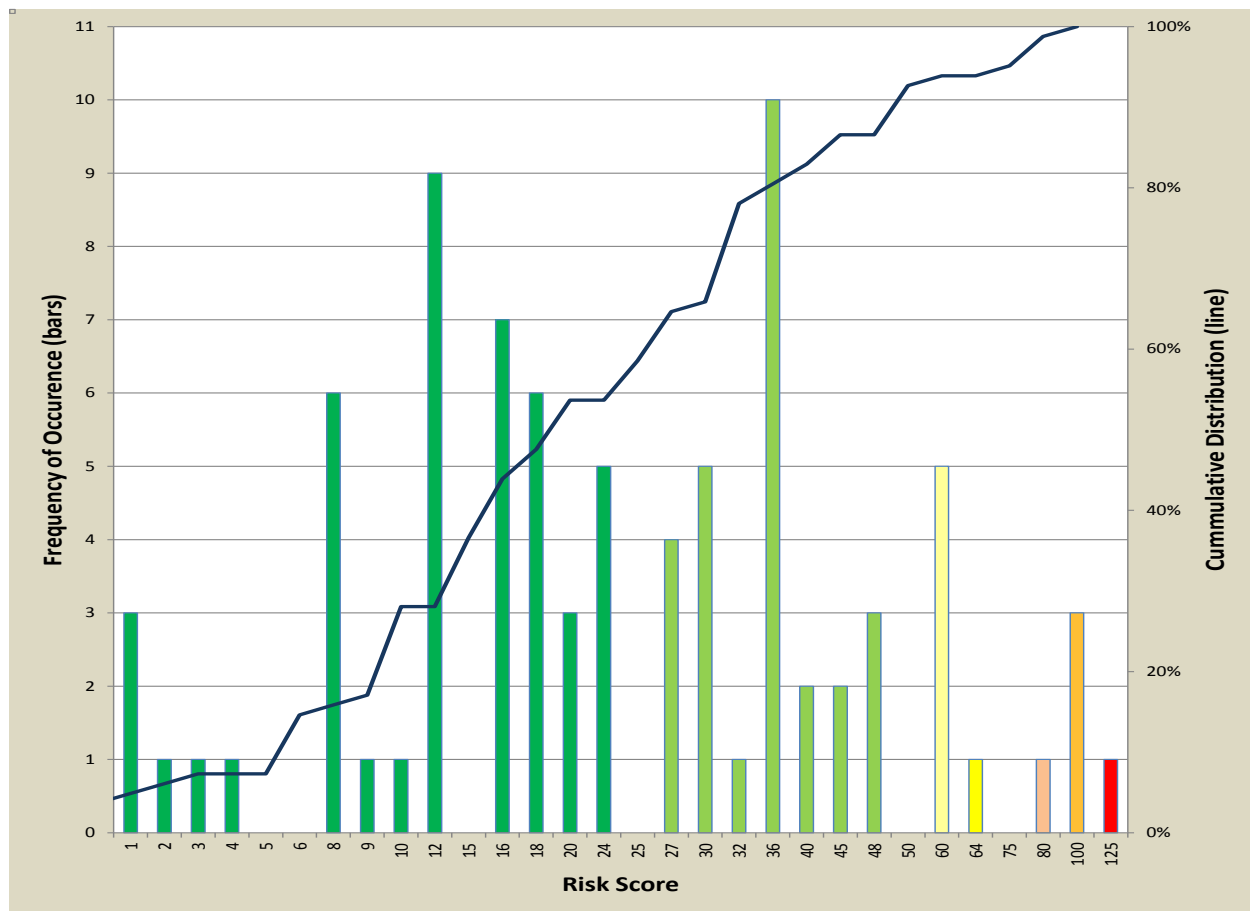
This statistical information could be used as a very general way to describe the baseline risk condition for the entire University. The results from future assessments could then be compared to this baseline to determine change in risk position.

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<sup>2</sup> Half of the Risk Score observations have values greater than the median, and half of the observations have values less than the median.

<sup>3</sup> The mode is the most frequently occurring Risk Score value.

**Figure 3: Risk Score Frequency of Occurrence**



Very High Risk	101 - 125
High Risk	76 - 100
Moderate Risk	51 - 75
Low Risk	26 - 50
Very Low Risk	1 - 25

Of all 82 risks reviewed, only 11 were judged by the risk owners to fall into the *Very High*, *High* or *Moderate* risk categories in the current year. These 11 risks are shown in the Table 2 in terms of Risk Score and related components (impact, control effectiveness and likelihood).



**Table 2****2011-2012 Risk Portfolio (Very High, High and Moderate Categories)**

<b>Risk Title</b>	<b>Risk Score</b>	<b>=</b>	<b>Risk Impact</b>	<b>X</b>	<b>Control Effectiveness</b>	<b>X</b>	<b>Risk Likelihood</b>
Medical Facility Constraints - UIC	125		5		5		5
Capital Programs / Construction	100		4		5		5
Procurement	100		4		5		5
Animal Research Facilities - UIC	100		4		5		5
Reduced Research Funding	80		5		4		4
International Ventures	64		4		4		4
Faculty Recruitment and Retention	60		5		3		4
Admissions	60		5		3		4
Environmental - UIC	60		3		5		4
Infrastructure Condition & Maintenance	60		5		3		4
Employee Retention	60		3		4		5

**Risk Change From Current Year To Year Five**

The profile of risk will change over time. During the interviews, the risk owners were asked to comment on the change in any of the Risk Score components from the current year to year five. Generally, a change during that period would be due either to the risk owner's expectation of a change in the related risk environment or an anticipated change in how the risk will be managed.

Table 3 presents the subset of risks that had a Risk Score in the *Very High*, *High* or *Moderate* risk categories for either the current year or year-five. The results are ranked on the basis of year-five Risk Scores.

**Table 3**

## 2011-2012 Risk Portfolio Ranked By Risk Score - Year Five

Risk ID	Risk Title	Risk Score			Risk Impact			Control Effectiveness			Risk Likelihood		
		Year 5	From	Current Year	Year 5	From	Current Year	Year 5	From	Current Year	Year 5	From	Current Year
M05C	Medical Facility Constraints - UIC	125		125	5		5	5		5	5		5
R21C	Animal Research Facilities - UIC	100		100	4		4	5		5	5		5
A11	Faculty Recruitment and Retention	80	↑	60	5		5	4	↑	3	4		4
A17	Admissions	80	↑	60	5		5	4	↑	3	4		4
F05	Cash Flow / Liquidity	60	↑	30	5		5	4	↑	3	3	↑	2
P14	Procurement	48	↓	100	3	↓	4	4		5	4	↓	5
F16	Infrastructure Condition & Maintenance	45	↓	60	5		5	3		3	3	↓	4
F25	Reduced Research Funding	40	↓	80	5		5	2		4	4		4
F24	International Ventures	36	↓	64	4		4	3		4	3	↓	4
H04	Employee Retention	15	↓	60	3		3	1		4	5		5
P03	Capital Programs / Construction	8	↓	100	2	↓	4	2		5	2	↓	5
C03C	Environmental - UIC	2	↓	60	1	↓	3	1		5	2	↓	4

Risks Ranked By Impact

Human tendency is to discount or even disregard those risks that appear to be remote, even if the impacts are potentially large. But, *singular* events judged to be remote do happen (e.g., the BP oil spill). And, *chains of events* that are considered unlikely to happen can coalesce – for example, the 2011 Japanese earthquake, with resulting tsunami, which disabled an under-designed nuclear plant, which exposed poor emergency preparedness.

In order to view the risk portfolio without the mitigating effects of likelihood or control effectiveness, the risk inventory was ranked solely by impact. This ranking differs from those in Tables 2 and 3, where the risks were ordered by Risk Score. Of the 82 risks reviewed, 15 had impacts in the *Very High* (5) category for either the current year or year-five. Table 4 shows these results:

**Table 4****2011-2012 Risk Portfolio - Ranked By Impact**

<b>Risk ID</b>	<b>Risk Title</b>	<b>Current Year</b>	<b>To</b>	<b>Year Five</b>
A03	Academic Quality	5		5
A11	Faculty Recruitment and Retention	5		5
A17	Admissions	5		5
C01U	NCAA / Big Ten Compliance - UIUC	5		5
C13C	Export Controls - UIC	4	↓	5
E12	Legislation	4	↓	5
F05	Cash Flow / Liquidity	5		5
F16	Infrastructure Condition & Maintenance	5		5
F25	Reduced Research Funding	5		5
M05C	Medical Facility Constraints - UIC	5		5
P07C	Crisis Management / Disaster Recovery / Business Continuity - UIC	5		5
P07U	Crisis Management / Disaster Recovery - UIUC	5		5
P09U	Energy Infrastructure Failure - UIUC	5		5
P18U	Athletics - UIUC	5		5
R05U	Laboratory Safety / Hazardous Materials - UIUC	5		5

**Emerging Risks**

Emerging Risks are those just beginning to manifest. A common tendency is to delay meaningful consideration of emerging risks because current efforts are fully involved with today's risks. However, emerging risks may have significant velocity, expressing their impacts before there has been adequate time to consider possible mitigation strategies.

Identification of emerging risks occurs throughout the assessment process, but predominantly happens during the Discovery phase. The following emerging risk areas were identified during the current assessment:

- Quality of host community with respect to attracting top talent (e.g., public school system)
- Academic breadth
- “Return On Investment” approach or other reforms to higher education
- Societal expectations regarding “loco parentis”
- Becoming over-commercialized to increase funding at the risk of academic quality
- Research sabotage
- Growing importance of international students (i.e., is the University doing enough to attract them while not ignoring in-state students?)
- Organizational nimbleness - can the University maintain itself through periods of paradigm change?
- Politicization of tuition issue / conflict of tax-payer support vs. tuition

These areas were not explicitly reviewed during the Evaluation phase of the current assessment. But, indeed, some are receiving attention by the University.

## **Risk Culture**

The following excerpt suggests how organizations can take a proactive approach to risk and uncertainty through improved culture:

“Company culture is a critical enabler of effective risk management. However, at many firms awareness and accountability for risk is low outside of senior management and the small group of employees who have risk in their job title. Leading companies cultivate a risk aware culture throughout their organization by building awareness of and accountability for the identification, understanding, and assessment of risk across the enterprise. They deploy standard risk and strategy frameworks that use simple, consistent

language to describe key risks and encourage open, upward communication of problems”.<sup>4</sup>

Risk culture was raised persistently as an issue during the course of both the current and prior assessments. The comments regarding risk culture are summarized as follows:

- The University seems to be consistently averse to any risk-taking, even if the potential impact would be relatively small, and many times seems unwilling to find solutions that accept some level of reasonable risk.
- The University exhibits a focus on less impacting risks while ignoring more significant ones, perhaps because the more significant ones are too complex to deal with.
- Risk appetite and risk tolerance have not been defined, so it is not clear how much risk is acceptable.
- There is little or no consideration of risk versus reward in many areas.

The offices of Enterprise Risk Management and University Audits are preparing a proposal to conduct a leadership survey on risk culture. The survey would be conducted during FY2013 and include Trustees and leadership of the University and each campus. The results of the survey would be used in part to gauge the risk appetite of the University and to provide the foundation for a progressive risk culture that involves all stakeholders.

## **Next Steps**

### **1. Response Phase**

- Conduct focused risk assessments in those risk areas with significantly high Risk Scores.
- Facilitate development of appropriate mitigation strategies, including consideration of activity and resource changes.

### **2. Risk Culture**

- Conduct a leadership survey focused on risk culture.
- Begin development of risk appetite / risk tolerance statements that eventually would be offered for consideration by the Board of Trustees.

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<sup>4</sup> CEB Views, Corporate Executive Board, January 18, 2012