

RISK MANAGEMENT FRAMEWORK

**PREPARED BY:
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UNIVERSITY OF MALAYA**

1.0 Introduction

Similar to other organisations, UM faces numerous risks. These risks have the potential to disrupt achievement of the University's strategic and operational objectives. The University aims to use risk management to make better informed decisions and improve the probability of achieving its objectives within the UM Quality Management System (QMS). This framework is a formal acknowledgement of the commitment of the University to risk management. The aim of the framework is to ensure that every effort is made by the University to manage risk appropriately to maximise potential opportunities and minimise the adverse effects of risk.

2.0 Objectives

- a. To instill awareness of the University's commitment to risk management in achieving its strategic and operational objectives;
- b. To formalise and communicate a consistent approach to managing risk for all University core processes and related activities;
- c. To ensure that all significant risks to the University are identified, assessed and where necessary treated and reported to the University in a timely manner through the Risk Management Committee; and
- d. To assign accountability to all staffs for the management of risks within their areas of control.

3.0 Overview

3.1 This Framework sets out a consistent approach for managing risks across the University aligned with UM QMS.

3.2. Review of Framework

The Risk Management Committee reviews this Framework every five years or whenever there is a revision of the University's strategic plan.

3.3. Key Elements of Framework

An overview of the Framework is provided in Figure 1, which depicts the key elements necessary for managing risk and the integration of these elements at all levels and in all contexts. These elements are discussed through the remainder of this framework document.

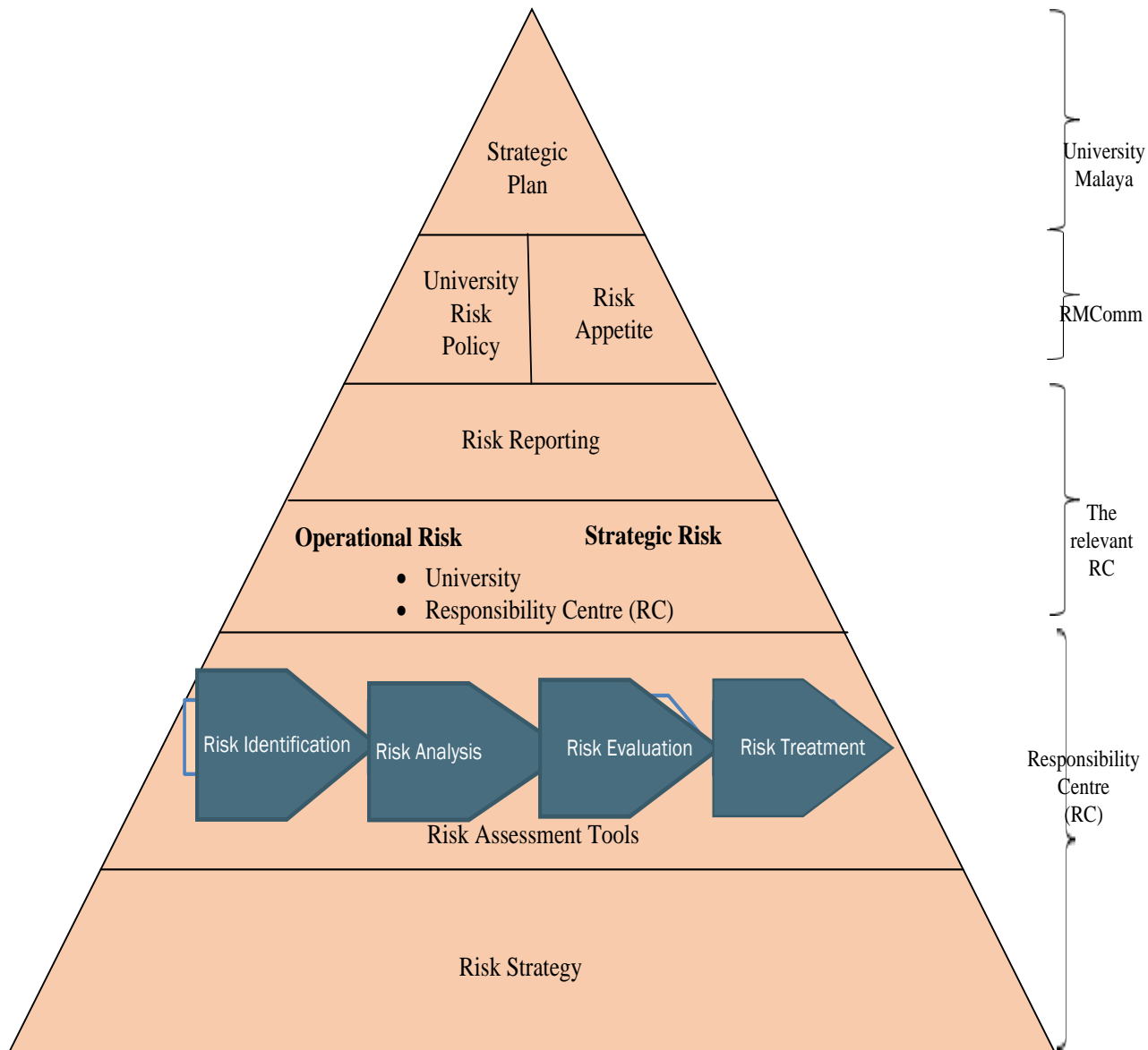


Figure 1: Risk Management Structure

4.0 Framework Statement

UM considers risk management to be fundamental to good management practice and a significant aspect of its governance. Effective management of risk will provide an essential contribution towards the achievement of the University's strategic and operational objectives.

Risk management must be an integral part of the University's decision making and routine management, and must be incorporated within the strategic and operational planning processes at all levels across the University.

Risk assessments must be conducted on core processes and related activities within the QMS towards achieving the University's objectives. Any risks or opportunities arising from these assessments will be identified, analysed and reported to the appropriate management level.

The University will maintain a Risk Register. The University is committed to ensure that relevant staff, particularly Head of Responsibility Centres (RCs) are provided with adequate guidance and training on the principles of risk management and their responsibilities to implement risk management effectively.

The University will regularly review and monitor the implementation and effectiveness of actions taken to address risks and opportunities, including promoting appropriate risk management culture across the University.

5.0 Scope

Risk is an inherent aspect of all academic, administrative and commercial business activities. Sound risk management principles must become part of routine management activity across the University. The key objective of this framework is to ensure the University has a consistent basis for measuring, controlling, monitoring and reporting risks across the University at all levels.

Risk exists as a consequence of uncertainty and is present in all activities whatever the size or complexity and whatever industry or business sector. It is important to understand that risk is a broader concept than the traditional view of merely a threat. It also recognises the risks of taking or not taking opportunities.

Risk includes threats (damaging events) which could lead to failure to achieve objectives. Opportunities (challenges) which if exploited could offer an improved way of achieving the desired objectives but which could potentially have negative impacts.

The University considers the following types of risk; strategic, operational, financial and project, technical/environment, safety and health/infrastructure, people and legal. Details on the categories of risks are given in **Appendix 1**.

6.0 Risk Responsibilities

It is essential that all participants in risk management are aware of their roles in the overall process and their own responsibilities. The key responsibilities are given in **Appendix 2**.

7.0 Risk Management Strategy

Risk can be assessed using brainstorming sessions, SWOT analysis or risk assessment user groups.

All risks in the Risk Register are 'owned' by the respective RCs with the understanding that it shall share responsibility to mitigate the risk successfully. Risk management at the RCs are undertaken by the Quality Manager and assisted by the Risk Officer (RO). Risk ownership is assigned to the person who is best placed to monitor the risk and the effectiveness of responses to that risk, that is, the person who:

- a) is responsible for the area of work that the risk is likely to affect, or
- b) will be most adversely affected if the risk occurs, or
- c) has technical knowledge about the risk.

The university adopts the five steps of risk management as given in **Appendix 3**. The University uses a risk model to define likelihood and impact. Impact is the potential severity or effect of the risk. Likelihood is the frequency or probability of a risk occurring. **Appendix 4** illustrates the measurement of likelihood and impact to be used in the University. The ratings given to impact and likelihood produce an evaluation of net risk. Both the adequacy of existing controls and net risk are denoted by a traffic light system. Please refer to **Appendix 5** for the University's Risk Map and the description of risk levels. Risk Management Committee review annually the risk management strategy based on various inputs. Details on the risk management strategy implementation is provided in the UM Risk Management Manual.

8.0 Risk Management Committee

Risk Management Committee (RMComm) is established to oversee the development of risk management framework in UM. Meetings of RMComm should be held at least twice a year, with a one-third quorum. Vice Chancellor or Management Representative will give annual report to the Board of Directors.

Terms of Reference:

- Evaluate risks, magnitude and the impacts to their impact(s) to the University.
- Evaluate risk management methods in accordance with the requirements and regulations.
- Review whether controls and related procedures have managed operational risks effectively.
- Review whether effective approach has been followed in the development of strategic risk mitigation plans.
- Decide appropriate changes to the risk management framework of the University.

Membership of RMComm is presented below:

| | |
|-------------|--|
| Chairman | Vice Chancellor/ Management Representative |
| Members | <ol style="list-style-type: none"> 1. Deputy Vice Chancellor (Academic & International) 2. Deputy Vice-Chancellor (Student Affairs and Alumni) 3. Deputy Vice-Chancellor (Research & Innovation) 4. Deputy Vice-Chancellor (Development) 5. Registrar 6. Bursar 7. Chief Librarian 8. Director of QMEC 9. Director of Global Planning and Strategy Centre 10. Director of International & Corporate Relations Office 11. Head of Legal Unit 12. Head of Internal Audit Section 13. Director of Office of Safety and Health 14. Director of Centre for Information Technology 15. Director of Development and Asset Maintenance 16. Director of Security Office 17. Others deemed necessary (by invitation) |
| Secretariat | QMEC |

9.0 Quality Management and Enhancement Centre (QMEC)

Quality Management and Enhancement Centre (QMEC) will function as the secretariat of the Risk Management Committee. Specifically the Documentation and Risk Management Unit of QMEC is identified to manage the risk management processes throughout the university.

Terms of Reference: (Secretariat)

- Co-ordinate the risk management processes and provides advice and guidance, including the development of standard templates and tools to assist the University in managing risk.
- Conduct training on the principles of risk management, risk assessment and on how to implement risk management effectively.
- Maintain the University's operational Risk Register.

A Risk Officer (RO) will be appointed at the respective Responsibility Centre (RCs) throughout the University. The RO will need to report to the Dean of the RCs.

Terms of Reference: (Risk Officer)

- Identify risks associated with the RCs' core services; its magnitude and the impacts to the RCs and the University.
- Suggest risk management methods in accordance with the requirements and regulations.
- Assist the Quality Manager to update and provide scheduled reports to QMEC.
- Assist the Head of RC in identifying the RC's strategic risks and mitigation plan.

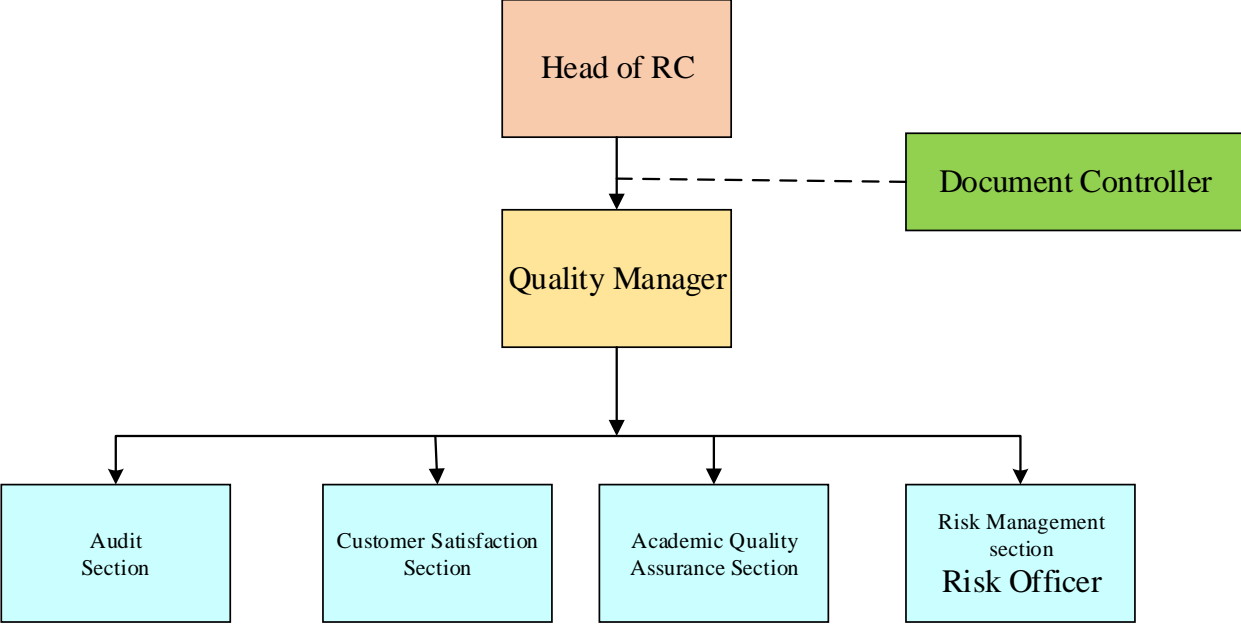


Figure 2 Structure of Quality Committee in RCs

Appendix 1
Categories of Risk

Strategic risks are all risks other than those specified in Operational Risk listed below. Primarily, the university's core strategic risks is coordinated by the Global Planning and Strategy Centre (PPSG). Nevertheless, other significant strategic risks are also contributed by the faculties, academies, other academic centres as well as the Department of Development & Estate Maintenance (JPPHB), Academic & International, Student Affairs & Alumni (HEPA), Research & Innovation (P&I), Development and Bursary.

Risks in UM

| Risks | Related Core Process | Risk Owner |
|---|--|---|
| 1. Strategic Risk | - | PPSG |
| 2. Financial and Project Bursar, JPPHB, RCs | PT05 PT04 | Bursar JPPHB |
| 3. Legal (MoU, Legal Unit) | - | Legal Unit |
| 4. Student and staff (Student refer to student's activities under HEPA that do not carry any credit hours) | PT03 PT07 PT09 | Staff-Registrar Student-HEPA Residential Colleges |
| 5. Environment, Safety and Health | PT04 | OSH |
| 6. Technical/ Infrastructure | PT04 | JPPHB/PTM |
| 7. Operational Risk (Teaching & Learning, Research, Commercialization and Cultural and Sport Service) | PT01 PT02 PT06 PT08 PT10 | TNC (A&A) <ul style="list-style-type: none"> • Director/Dean TNC (P&I) TNC (P&I) Chief Librarian TNC (A&A) <ul style="list-style-type: none"> • Director of Sports Centre • Director of Cultural Centre |
| 8. Corruption | - | Integrity Unit |

10 UM Core Processes based on UM QMS:

PT01: Teaching & Learning

PT02: Management of Research

PT03: Management of Human Resource

PT04: Management of Infrastructure & Asset

PT05: Management of Finance

PT06: Management of Commercialization

PT07: Management of Student's Affair & Alumni

PT08: Management of Library

PT09: Management of Residential College

PT10: Management of Sport /Cultural Service

Appendix 2
Risk Responsibilities

Structure of UM Risk Management in University of Malaya is as follows:



Appendix 3 Risk Model in UM

There are five steps to management of risks identified in the risk register which consists of:

Step 1: Risk Description

- i. Identifying the risks to achieving strategic and operational objectives
- ii. State the cause and effect of the risk

Step 2: Determine the Risk Owner

Risk owner is the best person placed to manage and monitor the risk

Step 3: Determining and assessing the existing controls in place

- i. Impact – Assess potential impact considering controls currently in place
- ii. Likelihood – Assess probability of occurrence by considering controls currently in place
- iii. Identify risk level by mapping risk on the chart

Step 4: Assessing the impact and likelihood of the risk after taking account of existing controls to derive the net risk

- i. Specify details of proposed controls (any method, plan or measure) which addresses the risk. Set the target date for controls to be in place
- ii. Reflect progress towards completing the proposed controls

Step 5: Determining further control improvements to mitigate the risk and indicate what their impact on net risk will be when they are fully implemented.

- i. Identify actions to mitigate consequences – Planned action to mitigate the impact if risk crystallise or exploit challenges by:
 - a. Transfer the risk
 - b. Treat the risk
 - c. Tolerating the risk
 - d. Terminating the risk
- ii. Enter target date by which controls should be put in place
- iii. Indicate the planned impact on net risk once actions have been implemented

Appendix 4 Measurement of Likelihood and Impact

Measure of Likelihood Matrix

Risk Assessment

The goal of risk assessment is to prioritize the university's risks, which involves assessing the likelihood of occurrence and the potential impact. To complete this risk assessment, RCs document the assigned measure of likelihood and impact for each risk statement.

Likelihood of Occurrence

Likelihood (e.g., probability or frequency) may be determined by using a scale of 1 – 5.

| Rank | | Measures of Likelihood |
|-------------|-----------------------|---|
| 1 | Rare | May only occur in exceptional circumstances (0 to 5 times). |
| 2 | Unlikely | Could occur at some time (6 to 10 times). |
| 3 | Possible | Might occur at some time (11 to 20 times) |
| 4 | Likely | Will probably occur (21 to 50 times). |
| 5 | Almost Certain | Expected to occur in most circumstances (more than 50 times). |

*** RCs have to specify and justify unit of measurement (day, week, month, semester or year)**

Example:

1. Cancellation of Classes at RCs level per semester
2. Internet breakdown
3. Utilities breakdown
4. Haze/Flood
5. Bus Service Interruption

*** Measurement of Likelihood and impact may vary according to type of risk and may have a specific standard to it.**

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Measures of Impact Matrix

Impact of Occurrence

Impact (e.g., consequence or severity) is determined by using a scale of 1 – 5. When an event has multiple impacts, select the most severe (i.e., highest number) for the measure of impact. This is measured at RCs level.

| Rank | | Insignificant 1 | Minor 2 | Serious 3 | Disastrous 4 | Catastrophic 5 |
|---------------------------|---|--|--|--|--|---|
| Measures of Impact | Financial Loss (Operating Budget) | <1% of operating budget, | RM500,000 - RM 1 million or 1-3% of operating budget | RM1 million - RM10 million or 3-5 % of operating budget | RM10 million - RM20 million or 5-10 % of operating budget | >RM20 million or > 10% of operating budget |
| | Quality of Product and Services <ul style="list-style-type: none"> • Programme • Process / Services • Output Process • Facilities | Small errors in the Products and Services that need correction | Errors in the Products and Services that need correction and can cause delays in the planning and delivery of services | Errors in the Products and Services that need correction , but does not affect the overall planning and delivery of services | Failure to comply with the product and service and quality standards / procedures and affect the planning and delivery of services | A critical system failure or persistent breach occurs which affect the achievement of objectives / goals / department / CoR |
| | Programme (Accreditation) | While participating accreditation scheme | While not follow the accreditation scheme | Full accreditation through the planning table | Full accreditation was given after the student graduates | Full accreditation denied |
| | Process Services / | Design errors that can be corrected through routine activities | Design mistakes that take a long time to fix but does not affect the planning | The process of preparation / design completion late but still in the pipeline | Preparation / design through completion and beyond the planning period | Design can not be completed / available and affect the provision of other activities |
| | Procurement | Mistakes quotation / tender document can be rectified through routine activities | Mistakes quotation / tender documents that can be corrected but does not affect the planning | The process of preparation / completion of quotation / tender documents late but still in the pipeline | Preparation / completion of quotation / tender documents through and beyond the planning period | Quotation / contract documents can not be completed, and affect the implementation of other activities |

| Rank | Insignificant 1 | Minor 2 | Serious 3 | Disastrous 4 | Catastrophic 5 |
|---|---|---|--|---|--|
| Output Proses (Schedule / manual / results / progress report / publications / patents etc.) | Output is produced following the planning | Output takes a long time but do not affect the planning Specification (quality, cost and time))development projects can take a long time but do not affect the planning | Output is not provided within the prescribed time and affected the planning development project specification (quality, cost and time) but still be resolved / provided within the prescribed | Output distributed to students beyond the stipulated period development project specification (quality, cost and time) and finished / completed pass design without increasing the cost / time | Output failed published / distributed to students development project specification (quality, cost and time) are set and solved by increasing the cost / time |
| Facilities | Issues / problems in ensuring availability and reliability function's facilities can be resolved through routine activities | Issues / problems in ensuring availability and reliability function's facility takes a long time but do not affect the planning | Delays in providing facilities and / or ensure reliability function but still in the pipeline | Delays in providing facilities and / or ensure reliability function exceed the time period prescribed | Facilities failing to provide / do not work and affect customer operations |
| Interruption of Services (*1) | < 2 hours | 2 hours - ≤4 hours | >4 hours but ≤ eight hours | >8 hours to ≤ 24 hours | >24 hours |
| Reputation | Unsubstantiated, low impact, low profile or no news items | Substantiated, low impact, low news profile | Substantiated, public embarrassment, moderate impact, moderate news profile | Substantiated, public embarrassment, high impact, high news profile, third party actions | Substantiated, public embarrassment, high multiple |
| Definition Reputation | The question of management RCs | Strikes from RCs management through minutes of meetings, | Strikes from UM Management through minutes of meetings, letters, | Strikes from LPU through minutes of meetings, letters, emails, memos | Strike from central agencies through minutes of meetings, |

| Rank | | Insignificant 1 | Minor 2 | Serious 3 | Disastrous 4 | Catastrophic 5 |
|------|----------------------------|--------------------|--|---|-----------------------------------|---|
| | | | letters, emails, memos Audit reports provided to RCs only | emails, memos Audit reports are brought to the Audit Committee | | letters, emails, memos The audit report states Media coverage through television, radio, and newspapers in and outside the country |
| | Health and Injuries | No injuries | First aid treatment | Medical treatment | Death or extensive injuries | Multiple deaths or severe permanent disabilities |

*1- Water, electricity, telephone, internet, bus services, library, counter service, student clinic etc

Appendix 5 Risk Map and Risk Level

Risk map

Likelihood and impact are multiplied to produce a visual array of risk levels. Risks that plot in the upper right corner are considered “chief risks” (value between 15-25) and should receive priority over those that plot towards the bottom left.

| | | | | | | |
|----------------------|-------------------|-------------|-----------------|-----------------|---------------|-----------------------|
| Catastrophic | 5 | 5 | 10 | 15 | 20 | 25 |
| Disastrous | 4 | 4 | 8 | 12 | 16 | 20 |
| Serious | 3 | 3 | 6 | 9 | 12 | 15 |
| Minor | 2 | 2 | 4 | 6 | 8 | 10 |
| Insignificant | 1 | 1 | 2 | 3 | 4 | 5 |
| IMPACT | | 1 | 2 | 3 | 4 | 5 |
| | LIKELIHOOD | <i>Rare</i> | <i>Unlikely</i> | <i>Possible</i> | <i>Likely</i> | <i>Almost Certain</i> |

Risk Levels

| | Legend | Meaning |
|---|-------------|---|
| Highest Likelihood Highest Impact | Extreme | Significant capability loss and the achievement of objectives are unlikely. |
| | High | Significantly degrades the achievement of objectives or capability. |
| | Substantial | Will degrade the achievement of objectives or capability. |
| | Medium | May degrade the achievement of some objectives or capability. |
| Lowest Likelihood Lowest Impact | Low | Little or no impact on the achievement of objectives or capability. |

Once a risk assessment has been completed, the Risk Map is used to assist in prioritizing the university's risks, and to be listed in the Chief Risks Chart. RMU will then prepare both Risk Assessment Template (**Appendix 6**) and Chief Risk Chart (**Appendix 7**) respectively for recording purposes.

Risk Assessment Template

Documenting Risk Assessment will be done by Risk Management Unit (RMU). Upon submission of risk registers by RCs, QMEC will then document those risks according to their respective classifications

PURPOSE: To assess risk statements and classify them according to risk types.
GOAL: For each risk statement, and the impact and likelihood of each risk. Identifying this information in a single chart will help determine risk prioritization.
DOCUMENT RISK ASSESSMENT: See the template below.

Responsibility Centre: _____ **Department/Unit/Section/Centre (If applicable):** _____

| Risk Statement | Risk Types (check one or more) | | | | | | Impact | Likelihood |
|---|--------------------------------|-------|--------|-----------|-------------|-------------------------|--------|------------|
| | Financial | Legal | People | Technical | Operational | Others (Please specify) | | |
| Air emissions exceed air operating permit | | | X | | | | 3 | 2 |

Chief Risk Chart

Documenting Chief Risks/ Risk Ranking

PURPOSE: To prioritize risks from highest to lowest.
GOAL: Rank chief risks and identify which ones should receive priority attention in the mitigation process.
HOW TO DOCUMENT CHIEF RISKS: Chief risks need to be ranked (with number 1 being the highest priority, or most “extreme” risk).

| Priority (1=highest) | Risk | Risk Level (Impact x Likelihood) | Notes |
|-------------------------|-------------------|-------------------------------------|--|
| 1 | Lab fire | 25 | Lab fires may occur overnight or on weekends and may have serious impact. |
| 2 | Basement flooding | 15 | The campus is located in a flood zone. Flooding regularly occurs during heavy rain events, and electronic equipment is vulnerable. |

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Risk Mitigation Worksheet

| 5 STEPS OF RISK REGISTER | | | | | | | | | | |
|--------------------------|------------------|------------|--------|------------|--------------------|-------------------------------|-----------------------------|---------------------------------|------------------------|----------------------------|
| STEP 1 | | STEP 2 | STEP 3 | | | STEP 4 | | STEP 5 | | |
| Number | Risk Description | Risk Owner | Impact | Likelihood | Net Risk (Current) | Actions to Reduce Probability | Status and Impact of Action | Action to mitigate consequences | Target completion date | Map the Net Risk Projected |
| | | | | | | | | | | |

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Annual Risk Mitigation Plan

Documenting Annual Risk Mitigation Plan

| Risk Identification | | Baseline (Without Mitigation) | | Risk Mitigation | | | | | | | With Mitigation (Existing and Potential Controls) | | Risk Communication and Monitoring | | | |
|---------------------|---|-------------------------------|--------|--------------------|-------------------------------------|--|--|---|------------------------------------|----------------|---|-----------|-----------------------------------|---|--------------------|--------------------------------|
| Risk Reference | Risk Area: Risk Statement | Likelihood | Impact | Existing/Potential | Policy and Procedures | Education and Awareness Training | Operational Controls | Oversight, Monitoring or Executive Controls | Audit Controls | Other Controls | Likelihood | Impact | Responsible Person | Time Line | Cost of Mitigation | Scheduled Date to Revisit Plan |
| Ex | Chemistry Labs: lack of guidelines endangers students | 4 | 3 | Existing Controls | Staff need to do X as outlined in Y | Policies and procedures are explained during... | Protocols are X, Y, and Z | Supervisor reviews ... for accuracy and completeness | Labs are audited every 3 years | | | | | | | |
| | | | | Potential Controls | Staff must follow new guidelines | Staff will be required to attend mandatory orientation | New guidelines and insurance policy will be set by external party X... | Mr. Jones reviews supervisor's review for accuracy and completeness | Labs will be audited every 2 years | 1 | 1 | Mr. Jones | 3 weeks | Training = \$65 per employee plus labor costs | 06/28/14 | |

PURPOSE: To organize and evaluate existing internal and potential controls and establish communication and monitoring protocols.

GOAL: Reveal gaps in existing internal controls and evaluate potential measures that can be taken to mitigate each risk. Create communication and monitoring measures for follow-up purposes.

HOW TO DOCUMENT CONTROLS: Document both planned risk mitigation and risk communication and monitoring strategies.