Dear Colleague:

Thank you for your participation in Northwestern University’s Business Continuity Planning Program. The University is committed to ensuring our critical units can resume operations and maintain functionality during times of crisis or prolonged emergencies, and your involvement with plan development and maintenance plays a vital role in these important efforts.

The goal of the Business Continuity Planning Office is to provide the resources, tools, support, and foster the collaboration necessary for both university-wide and unit-level plan development and maintenance. We aim to support your unit in all areas of continuity planning, and work to maintain a continuity planning program that fosters tailored attention and responsiveness, reflecting the unique needs of each of our individual functional areas.

We appreciate your participation and contribution to maintaining the University’s continuity planning program, and please feel free to contact the NUBCP team with any questions, comments, or assistance.

-The NUBCP Team  
Nu.bcp@northwestern.edu

**Handbook Table of Contents**

**Continuity Planning Coordinator Roles and Activities**................................. 1

**Continuity Planning Primers**

Business Continuity Management Planning.................................................... 3  
Academic Continuity Primer............................................................................. 7  
Administrative (Business) Continuity Primer.................................................... 9  
Research Continuity Primer.......................................................................... 11  
NU Pandemic Planning Primer...................................................................... 13

**Business Continuity Plan Template**............................................................. 25

**Tools**

Function Based Continuity Planning............................................................... 53  
Critical Function Identification Worksheet..................................................... 57  
Pandemic Staff Planning Tool......................................................................... 59  
Generally Accepted Practice for Backing up Data........................................ 61  
Hurricane Sandy- NYU Experience................................................................ 63

**Sample Plans**

Redacted Academic Plan............................................................................... 67  
Redacted Administrative Plan........................................................................ 99  
Redacted Abbreviated Research Center Plan (Research Centers Only).......... 167  
Redacted Abbreviated Core Facilities Plan (Core Facilities Only)............... 177
Continuity Coordinators are an invaluable asset to the Business Continuity Planning Program at Northwestern University. During times of emergency and/or crisis, administrative units, schools, and research centers may be faced with disruptions to regular business operations. In the event the crisis or emergency situation exceeds Northwestern University’s (NU) operational capacity and/or taxes NU’s operational resources, your area may need to activate your business continuity plan. When necessary, area continuity plans will be activated based on the nature and extent of the crisis, and the area continuity planning coordinator is the collaborative partner of the Business Continuity Planning Office for ensuring the ability to meet this need and activate a plan, should the situation ever arise.

**Purpose:** The objective of the Business Continuity Coordinator Roles and Activities document is to outline the role of the business continuity coordinators and enhance awareness of activities associated with continuity planning and crisis management.

The Business Continuity Coordinator (BCC) provides leadership in coordinating, assessing, developing and communicating business continuity plans. The plans are developed and maintained by each organizational area with the objective of mitigating against loss and ensuring critical business, academic, and research functions are able to be sustained in the event that facilities, technology, and/or other resources are unavailable due to an unforeseen disruption or event.

The BCC is the key point of contact during plan development, management, and activation. During crisis operations, the BCC will be the primary coordination point for the NU Business Continuity Planning Office (NUBCPO) – this means, the BCC may be communicating with the NUBCPO, the appropriate Emergency Support Function (ESF) staff, and/or personnel staffed in the Emergency Operations Center (EOC).

This document aims to clarify and expand this role.

**Functional Roles:** The function of the Business Continuity Coordinator falls into four general categories;

1. Act as the area’s primary contact and coordination point for NU’s Business Continuity Planning Office.
2. Maintain the area’s Business Continuity Plan and lend support, when necessary, to the Business Continuity Planning Office testing and exercise sessions.
3. Promote NU’s Business Continuity Planning efforts within their area of responsibility.
4. Contribute to the enhancement of NU’s overall Business Continuity Program through collaborative efforts spearheaded by the Business Continuity Planning Office.

**Activities:**

Act as the area’s primary contact and coordination point for NU’s Business Continuity Planning Office.

1. Assume leadership role in developing, coordinating, and maintaining comprehensive business continuity plans.
2. Act as the key point of contact for the NUBCPO during plan development, management, exercises planning and facilitation, awareness events, and plan activation.
3. Coordinate with the NUBCPO and provide expertise and support to management and business functional areas, as requested, when a business disruption occurs.
4. Provide Business Continuity Planning documentation and coordinate training for employees having a need to understand the Business Continuity Plan.
5. Assist in the identification and resolution of business continuity or disaster recovery issues within NU and the coordinator’s area of responsibility.
Business Continuity Coordinator Roles and Activities

Maintain the Area’s Business Continuity Plan and lend support for testing exercises. – The BCC’s fundamental responsibility is to ensure the area’s Business Continuity Plans are complete and up to date. This objective includes:

1. Manage the area’s Business Continuity Plans and perform an annual review of the area’s plans and procedures according to NU’s Business Continuity Program’s revolving schedule.
   a. Notify the NUBCPO of any new or existing systems, services, or processes which require a business continuity plan to be created or updated. (This process should begin before implementation of new service and should be a part of the planning and design process)
   b. Existing plans should to be updated any time a current system, service, or process is significantly changed or upon staff changes, organizational changes, functional changes, etc.

2. Assist internal groups with:
   a. Assessment of potential business impact (Business Impact Analysis),
   b. Identification of critical, essential, and other time-sensitive functions, including key dependencies,

3. Lend support for testing and exercising of continuity plans in collaboration with the NUBCPO, or inside of your own testing, when applicable.

4. Recommend continuity and recovery strategies and options, and assist with the implementation of recovery solutions, when applicable.

Promote NU’s Business Continuity Program within area of responsibility. – The purpose of business continuity planning is to prepare to take immediate and appropriate action in the event of a crisis. The successful execution of the Program depends largely on staff familiarity with the plans and procedures. To that end, as the BCC it would be helpful to consider the following:

1. Facilitate a meeting with area staff at least annually to review the Area’s Business Continuity Plan and the area’s emergency policies and procedures in collaboration with NUBCPO.

2. Promote NU’s business continuity planning efforts within their area of responsibility through use of promotional materials provided by the NUBCPO (newsletters, posters, activities, meetings etc.)

Contribute to the enhancement of NU’s overall Business Continuity Program. – To ensure the development and enhancement of NU’s overall Business Continuity Program, the BCC might;

1. Participate in activities and training offered by NU’s Business Continuity Planning Office.

2. Assist the department in enhancing, formalizing, and standardizing the business continuity planning process.

3. Provide feedback and recommendations to NU’s Business Continuity Planning Office on the effectiveness of and improvements to the Business Continuity Program.

Conclusion: With your valued support, the activities associated with the Business Continuity Coordinator Roles and Activities will help ensure the success of NU’s Business Continuity Program. Your participation, input, and feedback allows the NU Business Continuity Program aims to ensure Northwestern University continues to be a world-class leader in academics, research, and community support, even in the face of adversity.
Mission Statement

The mission of Northwestern University’s Business Continuity Program; through oversight, coordination, and collaboration, is to ensure that the methodology, plans, and tools are in place to minimize the impacts of a crisis event with an emphasis on:

- Protection of life, health, and safety of all University community members and visitors
- Preservation of the viability of the institution
- Protection of the University’s reputation and public confidence
- Restoration of general campus operations

Overall our mission is to ensure Northwestern University continues to be a world class leader in academics, research, and community support even in the face of adversity.

1. Business Continuity Management (BCM) – MORE than IT
   a. “Holistic management process that identifies potential impacts that threaten an organization and provides a framework for building resilience and the capability for an effective response that safeguards the interests of its primary stakeholders, reputation, brand, and value creating activities”
   b. About business processes and functions, not about IT systems
      i. Systems support and facilitate business processes/functions they do not perform them

2. BCM consists of
   a. Crisis management planning
   b. Technology recovery planning
   c. Business continuity planning
   d. Human resources planning – critical staff, maintaining existing staff
   e. Work area recovery planning – relocating staff, temporary space
   f. Site recovery planning – salvage and restoration
   g. Business restoration planning

3. BCM Life Cycle
   a. Understand the Business
      i. Conduct risk analysis (RA)
         1. consider existing mitigation controls
         2. determine potential mitigating controls which could be incorporated
      ii. Perform business impact analysis (BIA)
         1. based on mission critical activities
         2. determine time critical activities
         3. determine dependencies
         4. determine single points of failure
   b. Determine BCM Strategy
      i. Types
         1. Organization level Business Continuity Program (BCP) strategy
         2. Process level BCP strategy
         3. Resource recovery BCP strategy
      ii. Solutions
         1. do nothing
         2. manual procedures
         3. alternate location
Business Continuity Management Planning (Outline)

4. outsource
5. etc

iii. Use cost/benefit analysis to determine type and/or solution

c. Develop and implement BCM response – plans & solutions

i. Considerations
1. External bodies / organizations – upstream & downstream
2. Crisis management and Emergency Operations
3. Public Relations & Media concerns
4. Communications – internal & external
5. Sourcing – internal & external

ii. Develop continuity & recovery plans
1. determine format & structure
2. identify critical functions / processes
3. determine dependencies
4. create function / process restoration priorities
   a. determine recovery time objective (RTO)
   b. determine recovery point objective (RPO)
5. identify critical staff
6. identify key customers, vendors, stakeholders
   a. determine notification process and information content for each group
7. create restoration / continuity flowcharts or checklists
8. determine operating requirements as well as supplies
   a. include source information – ie furniture vendor
   b. consider temporary relocation space requirements
9. determine temporary procedures
   a. no power
   b. no network
   c. no HVAC
   d. no system server
   e. etc

iii. Build and Imbed a BCM culture
1. ongoing education
2. awareness tactics
3. training

iv. Exercise, Maintain, and Audit
1. determine frequency and schedule for each activity
   a. at LEAST annually for each

4. Keys to successful Business Continuity Program
   a. Executive board commitment
   b. Clear roles and responsibilities defined
   c. Clear ownership and accountability for plans and program
   d. Finance commitment
   e. Resource commitment
   f. Defined policy
   g. Defined framework
   h. Effective change management procedures in place

5. Planning Groups – Key players (to be established)
   a. Business Resumption Coordination Group
      i. Registrar
      ii. University Relations
iii. General Counsel
iv. Development
v. Student Affairs
vi. Business & Finance
vii. Facilities Management
viii. University Police
ix. Risk Management
x. Human Resources
xi. Provost
xii. Information Technology
xiii. Research

b. Research Resumption Coordination Group
   i. Facilities Management
   ii. General Counsel
   iii. University Relations
   iv. Risk Management
   v. Information Technology
   vi. (Consult w/ Office of Research Group for remaining members)
Academic Continuity Primer

Definition:
Academic/Business Continuity Planning (BCP) refers to the capability to maintain functional operations during or shortly following disruptive events, or the capability to quickly resume business functions and research activities after such an event.

Who’s Responsible:
At Northwestern, BCP is a shared responsibility within the community and it is expected that each academic, administrative, and research function develops its own plan using centrally provided templates.

Strategies to Enhance Academic Continuity Capabilities:
- Recognize that teaching and instruction is a primary mission of Northwestern University. As such, consideration should be given to creative solutions to maintaining the student learning environment as a principle priority.
- Develop academic continuity/recovery plans. Ensure individuals charged with implementing the plans receive thorough training and understand the roles, responsibilities, and activities laid out in the plans.
- Develop mutual aid plans with alternate campus labs, other institutions, or third party agencies to temporarily host academic activities, lab classrooms, and/or research projects for the duration of the event.
- Establish geographically diverse storage of electronic data, unique course related materials, critical paper files and other hard copy documents, etc.

Continuity Planning Considerations:
- Develop principles, policies, and procedures for resuming academic activities after an event. (With the understanding that facilities and resources may be limited therefore functions and services may need to be restored based on priorities established within the NU Emergency Operations Center (EOC).)
  - Determine critical and essential functions performed.
    - **Critical**: functions which have a direct and immediate effect on the general university in terms of the loss of life, personal injury, loss of property, and/or the ability of the University to maintain direction and control. The loss of a critical function may either result in such losses or inhibit the University’s ability to preclude or minimize such losses. Additionally, the institution could suffer serious financial, legal, or other damages or penalties.
    - **Essential**: functions that provide necessary university services to the institution and community which are not deemed “critical functions.” These functions could cause a substantial service or operational disruption and/or a substantial financial loss to the university or have severe reputational consequences.
  - Identify each function’s upstream and downstream dependencies.
    - **Upstream dependencies**: units, systems, or equipment whose failure-to-perform will negatively affect this function.
    - **Downstream dependencies**: units, systems, or equipment that will be negatively affected by your unit’s failure-to-perform this function.
Academic Continuity Primer

- Consider and document alternate methods to perform this function in the event the usual space, equipment, systems, faculty/staff, and other dependencies are not available.
- Consider how and if the academic time required for a course can be altered, i.e. can material be condensed and prioritized in the event teaching time is lost.
- Consider alternatives for courses with laboratory, clinical, and/or research requirements.
- Consider alternative mode of course delivery
  - Online / distance learning.
  - Alternative or flexible course schedule and location.
  - Blended courses that can share classroom time.
- Considered the use of shared bio-storage, lab use arrangements, or other methods of mutual support such as agreements with other campuses, labs, universities, vendors, etc. to store specimens or other research materials and which could be used to continue research projects in the event your lab facilities are damaged.
- Consider dividing valuable samples and implementing multiple storage methods, i.e. frozen and lyophilized.
- Determine and document the minimum staff, space, supplies, equipment, etc. required to perform this function.

✓ Establish continuity and recovery teams to assist management in prioritizing and conducting academic, business and research continuity and recovery activities.
  - Designate qualified faculty, researchers and other staff to be part of these teams.

✓ Develop emergency communications procedures, including off hours contact information, with researchers, faculty, staff, stakeholders, and other key contacts in case of a disrupting event telecommunication break down.
  - Consider developing and implementing a cascading call tree to foster efficient notification.
  - Consider creating group email and text lists to assist with prompt and easy message distribution.
  - Document and maintain contact information for multiple communication avenues (i.e. business phone, home phone, mobile phone, business email, personal email).

✓ Outline and quantify, where possible, potential impacts (i.e. fines, loss of funding, destruction of samples or specimens particularly those developed over extended duration, non-compliance, life-safety hazard) should academic pursuits, business activities and/or research efforts be interrupted by a crisis.

Who to Contact:

For additional information or assistance with business continuity planning, please contact;

Sharlene Mielke  
Business Continuity Planning Manager  
(847)467-7804  
s-mielke@northwestern.edu
Business Continuity Primer

Definition:
Business Continuity Planning (BCP) refers to the capability to maintain functional operations during or shortly following disruptive events, or the capability to quickly resume business functions and research activities after such an event.

Who’s Responsible:
At Northwestern, BCP is a shared responsibility within the community and it is expected that each academic and administrative function develops its own plan using centrally provided templates.

Strategies to Enhance Business Continuity Planning Capabilities:
- Development of business and research continuity/recovery plans. Ensure individuals charged with implementing the plans receive thorough training and understand the roles, responsibilities, and activities laid out in the plans.
- Mutual Aid plans with alternate campus labs, other institutions, or third party agencies to temporarily house research projects for the duration of the event.
- Geographically diverse storage of samples, specimens, electronic data, critical paper files and other hard copy documents, etc.

Continuity Planning Considerations:
- Develop principles, policies, and procedures for resuming business and research activities after an event. (With the understanding that facilities and resources may be limited therefore functions and services may need to be restored based on priorities established within the NU Emergency Operations Center (EOC).)
- Determine Critical and Essential functions performed.
  - Critical: functions which have a direct and immediate effect on the general university in terms of the loss of life, personal injury, loss of property, and/or the ability of the University to maintain direction and control. The loss of a critical function may either result in such losses or inhibit the University’s ability to preclude or minimize such losses. Additionally, the institution could suffer serious financial, legal, or other damages or penalties.
  - Essential: functions that provide necessary university services to the institution and community which are not deemed “critical functions.” These functions could cause a substantial service or operational disruption and/or a substantial financial loss to the university or have severe reputational consequences.
- Identify each function’s Upstream and Downstream dependencies.
  - Upstream dependencies: units, systems, or equipment whose failure-to-perform will negatively affect this function.
  - Downstream dependencies: units, systems, or equipment that will be negatively affected by your unit’s failure-to-perform this function.
- Consider and document alternate methods to perform this function in the event the usual space, equipment, systems, faculty/staff, and other dependencies are not available.
- Considered the use of shared bio-storage, lab use arrangements, or other methods of mutual support such as agreements with other campuses, labs, universities, vendors, etc. to store specimens or other research materials and which could be used to continue
Business Continuity Primer

research projects in the event your lab facilities are damaged.
• Determine and document the minimum staff, space, supplies, equipment, etc. required to perform this function.

✓ Establish Continuity and Recovery Teams to assist management in prioritizing and conducting business and research continuity and recovery activities.
• Designate qualified researchers and other staff to be part of these teams.

✓ Develop emergency communications procedures, including off hours contact information, with researchers, faculty, staff, stakeholders, and other key contacts in case of a disrupting event telecommunications break down.
• Consider developing and implementing a cascading call tree to foster efficient notification.
• Consider creating group email and text lists to assist with prompt and easy message distribution.
• Document and maintain contact information for multiple communication avenues (i.e. business phone, home phone, mobile phone, business email, personal email).

✓ Outline and quantify, where possible, potential impacts (i.e. fines, loss of funding, destruction of samples or specimens particularly those developed over extended duration, non-compliance, life-safety hazard) should business activities and/or research efforts be interrupted by a crisis.

Who to Contact:

For additional information or assistance with business continuity planning, please contact;

Sharlene Mielke
Business Continuity Planning Manager
(847)467-7804
s-mielke@northwestern.edu
Definition:
Business/Research Continuity Planning (BCP) refers to the capability to maintain functional operations during or shortly following disruptive events, or the capability to quickly resume business functions and research activities after such an event.

Who’s Responsible:
At Northwestern, BCP is a shared responsibility within the community and it is expected that each academic, administrative, and research function develops its own plan using centrally provided templates.

Strategies to Enhance Business/Research Continuity Capabilities:
- **Development of business and research continuity/recovery plans.** Ensure individuals charged with implementing the plans receive thorough training and understand the roles, responsibilities, and activities laid out in the plans.
- Mutual Aid plans with alternate campus labs, other institutions, or third party agencies to temporarily house research projects for the duration of the event.
- Geographically diverse storage of samples, specimens, electronic data, critical paper files and other hard copy documents, etc.

Continuity Planning Considerations:
- Develop principles, policies, and procedures for resuming business and research activities after an event. (With the understanding that facilities and resources may be limited therefore functions and services may need to be restored based on priorities established within the NU Emergency Operations Center (EOC).)
- Determine **Critical** and **Essential** functions performed.
  - **Critical:** functions which have a direct and immediate effect on the general university in terms of the loss of life, personal injury, loss of property, and/or the ability of the University to maintain direction and control. The loss of a critical function may either result in such losses or inhibit the University’s ability to preclude or minimize such losses. Additionally, the institution could suffer serious financial, legal, or other damages or penalties.
  - **Essential:** functions that provide necessary university services to the institution and community which are not deemed “critical functions.” These functions could cause a substantial service or operational disruption and/or a substantial financial loss to the university or have severe reputational consequences.
- Identify each function’s **Upstream** and **Downstream** dependencies.
- **Upstream dependencies:** units, systems, or equipment whose failure-to-perform will negatively affect this function.
- **Downstream dependencies:** units, systems, or equipment that will be negatively affected by your unit’s failure-to-perform this function.
- Consider and document alternate methods to perform this function in the event the usual space, equipment, systems, faculty/staff, and other dependencies are not available.
- Considered the use of shared bio-storage, lab use arrangements, or other methods of mutual support such as agreements with other campuses, labs, universities, vendors, etc.
to store specimens or other research materials and which could be used to continue research projects in the event your lab facilities are damaged.

- Consider dividing valuable samples and implementing multiple storage methods, i.e. frozen and lyophilized.
- Determine and document the *minimum* staff, space, supplies, equipment, etc. required to perform this function.

- Establish *Continuity* and *Recovery Teams* to assist management in prioritizing and conducting business and research continuity and recovery activities.
- Designate qualified researchers and other staff to be part of these teams.

- Develop emergency communications procedures, including off hours contact information, with researchers, faculty, staff, stakeholders, and other key contacts in case of a disrupting event telecommunications break down.
  - Consider developing and implementing a cascading call tree to foster efficient notification.
  - Consider creating group email and text lists to assist with prompt and easy message distribution.
  - Document and maintain contact information for multiple communication avenues (i.e. business phone, home phone, mobile phone, business email, personal email).

- Outline and quantify, where possible, potential impacts (i.e. fines, loss of funding, destruction of samples or specimens particularly those developed over extended duration, non-compliance, life-safety hazard) should business activities and/or research efforts be interrupted by a crisis.

**Who to Contact:**

For additional information or assistance with business continuity planning, please contact;

Sharlene Mielke  
Business Continuity Planning Manager  
(847)467-7804  
  s-mielke@northwestern.edu
Overview

It is expected that a pandemic will have world-wide impact with an unpredictable timeline, spreading quickly from one area to another. Major disruptions are possible for health care, transportation, infrastructure, suppliers, education, and other public services. The University’s physical facilities will not be damaged, but will need vigilant attention to maintain operation.

High absenteeism will affect the delivery of services and goods, nationally and internationally, as transportation and manufacturing staff are off due to illness. High absenteeism will present challenges to campus leadership and to delivery of services as human resources are strained across all aspects of the institution. Plans need to consider issues of succession across all functional areas, cross training personnel, and tele-connectivity that allows employees to work from home.

Any planning, protocols, and policies developed for continuity of operations and response must be flexible, resilient, and adaptable in a way that allows the planning to evolve in step with the projected phases of a pandemic. Planning should be directed at providing a planning and response framework within which to operate and make more specific decisions as the pandemic unfolds. It is not necessary and not desirable to make specific, pre-scripted decisions based on specific planning assumptions in advance of a pandemic. After the 2009 H1N1 outbreak, Northwestern and other Big 10 Health Directors debriefed on the event and published a document titled “H1N1 and Higher Ed – Lessons Learned.” One of the conclusions was that everyone who had developed plans with scripted decisions based on detailed planning assumptions ended up abandoning their detailed plans when the assumptions did not match the actual event.

Pandemic Phases

A pandemic unfolds over a prolonged period of time and progresses through several stages. The World Health Organization (WHO) and the Centers for Disease Control (CDC) conduct worldwide surveillance, monitor, and publish status of progression for potential pandemic viruses. The WHO has identified pandemic alert levels and pandemic phases. Additionally, the United States Federal Government has established pandemic response stages to guide pandemic planning and response implementation. The Northwestern University Pandemic Response Plan has defined four phases linked to the Federal Government stages which in turn correlate to the WHO phases. Planning and response considerations for each of the Northwestern Pandemic Plan phases are summarized in the Northwestern University Pandemic Plan – Base Plan; rev 3, Section VI (Appendix A).

The Northwestern plan phases will be used to trigger plan activation as well as guide planning and response operations. Individual pandemic specific Emergency Support Function plans as defined in the Northwestern University Pandemic Plan – Base Plan; rev 3, Section VII, should consider actions necessary for each phase of the response plan (Appendix B).

Assumptions

- A pandemic can begin at any time of the year and in any place in the world; it is expected to spread to the rest of the world within several weeks or months.
- Estimated duration of a pandemic vary with the first wave lasting from two to four months and a possible second wave of different magnitude within the next year.
- The number of persons with active infection at any point in time and the number of absences at any point in time will follow a bell shaped curve with the timing of the peak depending on how the infection is moving through the NU/Evanston/Chicago community.
• A clinical disease attack rate of 35% is appropriate for pandemic planning.
• Workplace absenteeism is expected to be higher than the estimated clinical attack rate high with aggregate absenteeism over the course of the pandemic as much as 40% of the work force. During the peak of the pandemic, we should use 20% as the peak absenteeism rate with employees absent for 1 to 14 days.
• Even if classes are suspended and students sent home, a significant number of students will remain on campus and must be planned and cared for.
• Quarantine is less likely, but may be mandated depending on the severity of the pandemic virus.
• Non pharmaceutical interventions will be the principal means of disease prevention and control – social distancing, careful preventative measures like hand and cough hygiene, enhanced surface cleaning and disinfecting (Refer to the NU Pandemic Plan – Base Plan; rev 3 for further information).
• Both the governor and public health officials possess the authority to close schools and prohibit large gatherings and events. Such an executive order might include suspending classroom instruction and other large gatherings of people on campus.
• Academic research will continue if resources and staff are available. Key cultures and animals will be maintained as much as possible.
• If vaccine and/or antivirals become available, it is unlikely there will be sufficient quantities to cover the entire population. Therefore, schools should discuss how decisions would be made for determining who would be on the priority list for receiving immunization/prophylaxis first.

Considerations

Northwestern University Phase Specific Considerations:

The focus of response efforts will shift as the pandemic progresses through the phases identified for the Northwestern response. Some, but certainly not all response efforts by response phase are accounted for and outlined in the NU Pandemic Plan – Base Plan; rev 3, Section VI (Appendix A)

Business Continuity

• The primary threat to business continuity and infrastructure is due to scarce resources and reduced staffing due to absenteeism.
• Building maintenance will need to continue and computer infrastructure must be maintained.
• It is anticipated that a pandemic will result in interruption of services and a shortage of supplies and fuel. Consideration should be given to vital components outside the university, such as the resilience of supply chains for essential goods and services.
• Identifying contingency plans for sustaining basic functions in case of loss of telecommunications, utilities, and IT capability needs to be included.

Emergency Support Function (ESF) Planning Guidelines

The individual Pandemic Emergency Support Functions (ESF) are defined as areas requiring unique pandemic planning considerations and are based on the American College Health Association (ACHA) Pandemic Planning Guidelines. During development there are general guidelines that can be applied across all areas of pandemic planning. Additionally, as each ESF planning team prepares their specific pandemic ESF plans function specific responsibilities and planning guidelines are provided in Appendix B. General planning guidelines which apply to all ESF planning efforts include, but are not limited to:

• Identify the critical functions that need to be sustained.
• Identify the personnel, supplies and equipment vital to maintain critical functions.
• Consider how to deal with staff absenteeism to minimize its impact on critical functions.
• Assign and train alternative staff to maintain critical functions and for critical posts.
• Define alternative methods for delivering critical functions.
• Include education of personnel and students about pandemic and personal risk reduction.
• Provide clear command structures, delegations of authority and orders of succession.
• Assess the need to stockpile strategic reserves of supplies, material and equipment.
• Identify units, departments, functions, or services that could be downsized or closed.
• Establish guidelines for priority of access to essential services.
• Consider and test ways of reducing social mixing (e.g. telecommuting or working from home and reducing the number of physical meetings and travel).
• Consider the need for family and childcare support for essential workers.
• Consider the need for psychosocial support services to help workers to remain effective.
• Two scenarios should be considered in planning
  o The University staying open through the pandemic with plans addressing academic and business continuity, student illness, and employee absenteeism
  o The suspension of University operations
    ▪ Partial with classes suspended and students sent home
    ▪ Complete with all non-essential University operations suspended.
• Planning assumptions for each ESF should also be listed.
• The plans should define ESF specific planning issues and include methods to address these issues. These will largely be driven by 1) needs related to care, housing, and feeding of ill and healthy students; 2) issues related to absenteeism, both of students and of staff/faculty; and 3) shortages of supplies and services.
• The plans should address specifics of each of the four Northwestern phases of a pandemic defined above.
• Each ESF should coordinate with other ESF plans. For example, if the Academic Affairs ESF is planning to use distance learning to address pandemic issues, NUIT in the Communication ESF should address the communication infrastructure to facilitate it.
Appendix A – NU Pandemic Plan Phases

<table>
<thead>
<tr>
<th>WHO Phases</th>
<th>Federal Government Response Stages</th>
<th>Northwestern University Response Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpandemic Phase</td>
<td>0 New domestic animal outbreak in at-risk country</td>
<td></td>
</tr>
<tr>
<td>Alert Phase</td>
<td>1 Suspected human outbreak overseas</td>
<td>2 Preparation</td>
</tr>
<tr>
<td></td>
<td>• Influenza subtype that has caused a human infection may be present in animals; human disease risk low</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Circulating animal influenza subtype poses substantial risk to humans; no new subtypes detected in humans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 Confirmed human outbreak overseas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Small cluster with limited human-to-human spread; virus not well adapted to humans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Large cluster with human-to-human spread; localized virus is becoming increasingly adapted to humans</td>
<td></td>
</tr>
<tr>
<td>Pandemic Phase</td>
<td>3 Widespread human outbreaks in multiple locations overseas</td>
<td></td>
</tr>
<tr>
<td>Transition Phase</td>
<td>5 Spread throughout the United States</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 Recovery and preparation for subsequent waves</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 Recovery</td>
<td></td>
</tr>
</tbody>
</table>

Northwestern University Phase Specific Considerations:

The focus of response efforts will shift as the pandemic progresses through the phases identified for the Northwestern response. Some but certainly not all response efforts by response phase are:

Planning and Surveillance Phase

- The focus is on monitoring pandemic events and progression with special attention to international/domestic clusters during peak times of student/faculty/staff travel and potential exposures (including breaks and holidays).

---

Excerpt “Northwestern University Pandemic Plan – Base Plan”; rev. 3, Section VI
- Monitor World Health Organization phases, CDC and public health communications – WHO and CDC will regular communicate the progression of a threatened pandemic and inform on characteristics of the pandemic like transmissibility, severity, risk groups, and clinical characteristics
- Risk assessment is on-going
- Review and update the Northwestern pandemic plan
- TAG will be activated when WHO declares a pandemic is in the alert phase
- Selected preparation phase activities may be initiated
- Begin discussion of considerations related to limiting or suspending University operations
- Begin stockpiling essential and potentially scarce supplies based on ongoing risk assessment and WHO/CDC communications

**Preparation Phase**

- The focus is on information, communication, prevention, assessment and preparation
- Stockpile essential or potentially scarce supplies
- Begin public health and prevention messaging
- CMT will be activated and the Emergency Operations Center (EOC) established
- Initiate appropriate social distancing, public health, and prevention policies
- Establish coordination with local and state Public Health Departments
- Review or establish and communicate human resource policies for employee absenteeism during the pandemic

**Response Phase**

- The focus is on health and safety, business continuity, and academic continuity
- Care of the ill
- Housing and feeding of all students
- Isolation housing and care of ill students, possibly quarantine or infirmary housing
- Employee absenteeism
- Decision on suspending University operations
- Communication is critical
- Track illness/absenteeism among students/staff/faculty to guide response operations
- Enforced social distancing
- Enhanced cleaning frequency and intensity – sanitation
- Academic continuity for ill students
- Begin recovery planning – establish criteria for calling an end to the pandemic

**Recovery Phase**

- The focus is on resumption of business operations and classes
- Develop strategy to communicate the resumption of normal campus function (business operations and classes) - students and employees may have left campus
- Debrief and evaluate the effectiveness of the pandemic plan and response
Appendix B – Individual ESF Guidelines

Pandemic ESF Plans - The following sections define some specific planning responsibilities for each individual pandemic ESF. These are not intended to define all planning responsibilities but instead to serve as a starting point. Each section also provides planning guidelines for each ESF from the American College Health Association (ACHA) “Guidelines for Pandemic Planning.” Not all of the ACHA guidelines will be appropriate for Northwestern specific pandemic planning.2

A. Student Health Services/Counseling ESF

Response Responsibilities:
- Surveillance and activation of emergency response
- Pandemic and public health communication content
- Pandemic education and preparation communication content
- Clinical issues and patient care management
- Isolation/quarantine medical management
- Liaison with local and state public health
- Mass vaccination and dispensing
- Planning should include the Chicago campus

ACHA Guidelines:

Education and Preparedness

1. Engage staff in pandemic planning and provide exercises and drills to rehearse the plan and revise as necessary.
2. Provide regular updates for staff regarding avian influenza, recommendations for treatment protocols, appropriate infection control procedures, and status of antiviral and vaccine development. Encourage participation in webcasts, seminars, and other continuing education programs as they become available.
3. Monitor CDC, WHO, and ACHA websites for the latest developments and updates on planning recommendations.
4. Encourage staff to make personal emergency preparedness plans with their families.
5. Engage staff in discussions regarding their psychological and emotional support needs in preparation for dealing with a pandemic event.
6. Vaccinate all staff against seasonal influenza.
7. Fit test staff with direct patient care responsibilities with N95 respiratory protection annually and provide an in-service on proper use of personal protective equipment. If you have a Department of Environmental Health and Safety on your campus they may be able to assist you in this area.
8. Identify resources for food and on-campus lodging for health service staff in the event staff cannot or do not wish to commute home.

Supplies/Equipment/Services
Once a pandemic starts, it will be difficult, if not impossible, to obtain medical supplies. Purchasing ahead and storing nonperishable goods is a prudent strategy. Quantities should be based on a best estimate of the number of students who may not be able to leave campus and the attack rate discussed earlier.

1. Compile a list of supplies that would be needed, such as respiratory protection equipment, gloves, gowns, protective eyewear, medications (antibiotics), disinfectants, and IV fluids. (See Appendix A.)
2. Identify supply sources and a storage area.
3. Provide administration with a cost estimate for securing supplies.

2 Excerpt “Northwestern University Pandemic Plan – Base Plan”; rev 3, Section VII
4. Maintain a stock supply of necessary medications and equipment; inventory and rotate supplies as appropriate.
5. Investigate the feasibility of establishing negative pressure rooms in the clinic, equipment necessary, and cost/benefit. Consult with Department of Environmental Health and Safety on your campus for assistance in this area.
6. Establish a plan for continuation of cleaning services and waste removal services including triggers to increase the frequency of the scheduling of these services.

Clinical Issues
Expect that hospital systems and 911 will be overwhelmed. Only persons in acute respiratory distress will be considered for admission, leaving the majority of ill students to be cared for by university staff, particularly those in health services and student affairs.

1. Consult with Human Resources regarding the recruitment of volunteers campus wide willing to be trained to assist in providing care for the ill. Risk management and university legal counsel should be included in these discussions as well.
   a. Develop a list of duties that volunteers could assist with, including answering phones, moving supplies, and providing bedside assistance to the ill.
   b. Develop a training plan that includes use of personal protective equipment.
   c. Develop telephone triage protocols.
   d. Develop a clinic schedule based on 24/7 operations to determine staffing needs.
2. Develop a protocol for transport of students to the hospital if 911 is not available.
3. Develop a plan for setting up an infirmary and expanding clinical space, including identification of alternate locations and equipment and supply and staffing needs.
   a. Develop a contingency plan for managing health care needs in the event that you exhaust human resources and supplies.
4. If unable to provide infirmary care due to limited resources, identify community resources that students could access.
   a. Engage in discussions with community resources in advance so that they understand the needs of the student population and you understand their pandemic operating protocols.
5. Develop a triage and treatment protocol that can be easily adapted once a case definition is established.
6. Develop clinic signage and voice messages that would give ill students directions about how to access services.
7. Develop a protocol for monitoring cases residing in on and off campus apartments/residences.
8. Develop a protocol for care of the deceased that addresses storage until transfer and notification of the family.
9. Develop a plan for conducting mass immunization clinics.

Counseling Services
1. Develop a plan for providing 24/7 counseling services for students, staff, and faculty.
   a. Include protocols for providing services via telephone and Internet.

B. Communications (External Affairs) ESF

Response Responsibilities:

- Communicating information and alerts throughout all phases of the pandemic to all audiences. Medical and public health content would come from the Student Health/Counseling ESF. Specific communications to international students should involve the International Office.
- Providing communication infrastructure and systems through potential interruptions.

ACHA Guidelines:
Identify which departments on your campus are in charge of communication functions, including public, media, and government relations, and communication infrastructure (phone and Internet), and include them in the pandemic planning committee membership. Determine which department has primary responsibility for each of the areas listed below and the types of interdepartmental collaboration required to effectively carry out the required activities.

**Internal**

1. Identify who will be in charge of communications, as well as one or two persons in backup positions in case the key person(s) falls ill.
2. Establish a central reporting plan for daily monitoring of the prevalence of illness on campus, including: employee absences, number of students in isolation and quarantine, number of lab confirmed cases, and number of student transports to the hospital.
3. Establish a calling tree for notification/alerts to essential personnel.
4. Identify all possible means of communicating with students, staff, faculty, parents, and outside consistencies (recruiters, vendors, community business owners) including Internet, landlines and cell phones, posting, and hand radios.
   a. Collaborate with communication and technology departments on campus to discuss communication capabilities, limitations, and systems testing.
5. Provide information to the campus community on: the status of disease on campus; travel advice; self-care; personal preparedness planning; proper hand washing techniques and cough etiquette; federal, state, and local public health resources; and how/when to access services in case of illness.
   a. Communicate early and often. Share pandemic planning status with the campus community.
   b. Collaborate with media relations for assistance with crafting messages and disseminating them to on campus and off campus constituencies.
   c. Craft messages in advance that can be easily revised if necessary.
   d. Ensure materials are easy to understand and culturally appropriate.
   e. Identify individuals who can act as translators and consider translating materials into different languages as appropriate for student population.

**External**

1. Establish and maintain communications with the local public health authorities, emergency preparedness groups, and hospital system(s) regarding surveillance, case identification and reporting, control measures, and health care provision.
   a. Identify key contacts within each system and revise regularly.
   b. Participate in community drills/plans.
2. Benchmark the activities/planning of other colleges and universities, including student health services.

**C. Housing Services, Residential Life, and Dining Services (Mass Care) ESF**

**Response Responsibilities:**

- Maintenance of essential housing and food services during elevated absenteeism
- Providing Isolation housing and food services, and basic support services staffing
- Providing Quarantine housing and food services, and basic support services staffing
- Routine (weekly?) census reporting of illness rates in University housing and greek housing to the Crisis Management Team
- Stockpiling of non-perishable foods
- Stockpiling of essential supplies (cleaning and disinfecting supplies, facial and toilet tissues, disposable towels, hand soap, etc.)
- Providing enhanced levels for cleaning/sanitizing/disinfection (Hospital grade products and protocols)
- Plans for closing/consolidating residence halls
ACHA Guidelines:

1. Identify rooms and buildings that could be used for quarantine, isolation, and residence for students who cannot go home.
2. Develop a procedure for closure and evacuation of campus residence halls and houses not in use.
3. Develop procedures for notifying and relocating students.
4. Develop plans for continuation of housekeeping services and stockpiling items such as cleaning and disinfecting supplies, facial tissues and toilet paper, disposable towels.
5. Ensure that housekeeping personnel receive training regarding personal protection and proper cleaning procedures.
6. Identify communication protocols between housing services and residence life staff.

D. Law Enforcement and Public Safety ESF

Response Responsibilities:

- Securing the campus
- Ongoing communications with local police, fire, and emergency response personnel

ACHA Guidelines:

1. Develop procedures for securing building, protecting stored supplies, and restricting access to campus.
2. Establish ongoing communication with local police, fire, and emergency response personnel in order to coordinate efforts for managing safety issues.
3. Develop triage protocols for responding to students in distress either due to illness or illness of others or requesting transport for medical care.
4. Establish a communication plan with student health and counseling services, residence life, and student affairs for reporting calls and transports.
5. Participate in training regarding influenza.
6. If campus police will be involved in student transport because other emergency transport is not available:
   a. Train in use of personal protective equipment and fit for N95s.
   b. Equip cars with disinfectants, surgical masks for persons being transported, gloves, and hazard waste bags.
7. Should we prioritize campus police for immunizations; prioritize their families as well? This is an on-going discussion in first responder circles; if first responders are worried about their families they may not come to work or may be less effective.
8. Should police (and other essential personnel) be provided with prophylactic antivirals if there is no vaccine?

E. International/Study Abroad ESF

Response Responsibilities:

- Pandemic planning for all students and faculty/staff traveling abroad
- Communication with students and faculty/staff traveling abroad

ACHA Guidelines:

1. Develop procedures for monitoring student travelers entering the campus from affected regions and providing information to health services.
2. Develop a plan for communicating with international students and their families regarding travel restrictions and re-entry.
3. Develop a plan for communicating with students who are studying abroad or plan to study abroad.
4. Develop guidelines for temporary closure of study abroad programs.
5. Communicate with study abroad program leaders about planning procedures for shelter in-place, closure decisions, and resources for assisting students who cannot get home.

F. Physical Plant and Maintenance (Facilities and Utilities) ESF

Response Responsibilities:
- Maintaining critical buildings, services, supplies
- Enhanced cleaning/sanitizing/disinfecting of public spaces

ACHA Guidelines:
1. Discuss contingency plans in case of fuel, water, and energy shortages including the availability of emergency generators.
2. Identify building ventilation systems especially in those areas considered for quarantine, isolation, and health care delivery.

G. Human Resources ESF

Response Responsibilities:
- Revised policies for employee absenteeism during the pandemic (for Evanston, Chicago, and Qatar campuses)
- Reporting employee absenteeism rates to the Crisis Management Team (for Evanston, Chicago, and Qatar campuses)
- Revise or develop work from home policies and guidelines

ACHA Guidelines:
1. Coordinate the identification of essential personnel and ensure that departments are depth charted.
2. Encourage staff and faculty to update emergency contact information.
   a. Employees who have been exposed or are suspected of having the illness should not come to work. Therefore, liberal, nonpunitive policies should be established in order to ensure compliance with public health recommendations.
4. Establish return-to-work guidelines consistent with the case definition.
5. Prepare communications for supervisors and the campus work force addressing guidelines related to reporting of ill, business travel procedures, information to persons returning from affected areas, and access to mental health resources (i.e., Employee Assistance Programs).
6. Prepare work-at-home guidelines that address telecommuting issues.
7. Assist in the recruitment of a volunteer work force and identification of cross-training needs.

H. Academic Affairs ESF

Response Responsibilities:
- Academic continuity plans for Evanston, Chicago, and Qatar campuses.
- Define issues related to limiting or suspending University operations
- Guidelines to address academic concerns of students absent from classes due to illness, isolation, or quarantine.
- Alternate procedures for completing coursework (alternative forms of instruction, web-based instruction, etc.)
- Academic issues around canceling classes (if necessary) and return to classes

ACHA Guidelines:
1. Develop a policy or guidelines to address academic concerns of students absent from classes due to illness or quarantine.
2. Develop a procedure for students who are in isolation or quarantine to obtain class notes.
3. Develop and disseminate alternative procedures for completing course work (i.e., web-based instruction, lessons and assignments delivered via snail mail).

I. Research ESF

Response Responsibilities:
- Preservation of essential research functions

ACHA Guidelines:
Some researchers may be able to continue working during a pandemic, especially if they are working alone or in small groups in spacious labs. The ability to continue research will to some extent be dependent upon safety issues and the availability of other support services such as Environmental Health and Safety and Physical Plant.

1. Determine campus buildings that may remain open for research.
2. Establish a plan for maintaining security in laboratory spaces.
3. Establish a plan for care of laboratory animals if research ceases due to safety issues or high absenteeism among the animal handlers.
4. Establish a plan for specimen storage and managing experiments in process.

J. Business and Finance ESF

Response Responsibilities:
- Define issues related to limiting or suspending University operation
- Mitigate financial ramifications of a pandemic
- Procedures for rapid procurement and payment for supplies, equipment, and services
- Continuity of payroll and other financial functions compromised by absenteeism
- Resolve issues about paying for immunizations and antivirals

ACHA Guidelines:

1. Discuss the potential financial ramifications of a pandemic and estimate the impact and identify emergency funding to cover purchases and business continuation.
   a. Collect information from departments (i.e., student health, dining, housing) related to costs for stockpiling supplies. (Both routine and medical supplies)
2. Develop procedures for rapid procurement and payment for supplies, equipment, and services.
3. Develop a plan for ensuring the continuation of payroll and accounting operations in the face of high employee absenteeism
4. Determine what functions can be conducted by employees working at home and how to support this.
PART 1 GENERAL INFORMATION

PART 2 ACTION ITEMS TO INCREASE OUR READINESS

PART 3 INFORMATION & STRATEGIES FOR OPERATING DURING CRISIS

A CRITICAL FUNCTIONS

B INFORMATION TECHNOLOGY
Recovery Details for Applications:
Recovery Details for Servers:
Backup of Workstations:
IT Strategies:

C UNIT PREPAREDNESS
Plan Distribution Policy:
Unit Communication Procedure:
Disaster Recovery/Business Continuity Assessment Teams:
Action Items:

D KEY PEOPLE & RESOURCES
Communication Resources:
Working from Home:
Critical or Key Staff:
Key Staff of Other Campus Units:
Key Off-Campus Partners:
Key Vendors:
Key Others: donors, stakeholders, clients, customers
Office & IT Equipment:
Operating Requirements:
Other Equipment:
Supplies:
Facilities:

E TESTING
Part 1 GENERAL INFORMATION

- This business continuity plan is for:
  Please list the organization name and the various entities this plan may cover. This section will clearly state the various entities covered by this plan.

  This unit’s “parent” department is:
  If your organization directly reports to another, please list the department/entity here.

- Number of personnel
  
<table>
<thead>
<tr>
<th>Faculty &amp; Other Appointees: If applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff (full-time): List your full-time staff at all locations – If you have multiple office sites and/or locations please break out staff here.</td>
</tr>
<tr>
<td>Staff (part-time): List your part-time staff at all locations – If you have multiple office sites and/or locations list staff by location.</td>
</tr>
<tr>
<td>Student Staff: List student staff lists with contact information here – provide updated lists as needed to OEM and BCP office</td>
</tr>
<tr>
<td>Other:</td>
</tr>
</tbody>
</table>

- Unit Organizational Chart:
  (insert here or attach with plan)

  In 2008-2009 continuity template, you were asked to provide a unit organizational chart. You can insert the same chart here. Please make sure the chart is updated to reflect any changes.

- Location(s):
  Please list all office sites/locations that this plan covers here. Include the address and contact information site manager.

- Any rented Space? Y/N – Locations
  If your organization rents office space, please list landlord information here. Also, list all locations that you rent here.

- Critical Functions performed by this unit. (Functions essential to the service activities during a major crisis):
  
  | In this section provide all the critical functions performed by your unit. The previous template asked that you list all high-importance events which impact your unit throughout the year. Please insert that document here. |
• Extraordinary functions (special functions that this unit may need to perform during a time of crisis): During times of crisis, it may be necessary for your unit to add functions to your unit. You may not be able to anticipate any additional functions. We hope to address this during training and exercise – it is our hope that we are able to identify any additional functions in the future.

  o

Is there a specific plan for this extraordinary function? If you have identified a extraordinary function, please develop a specific plan to make this function operational. How would you go about adding this function? How much would it cost? Whose responsibility would this function be? What would have to happen for this function to be needed? (Note: We will work with you to answer these questions.)

• Functions judged to be non-critical:

  To better understand critical and non-critical functions, please refer to the guide below:

  Critical: are functions which have a direct and immediate affect on the general university populous in terms of the loss of life, personal injury, loss of property, and/or the ability of the university to maintain direction and control. The loss of a critical function may either result in such losses or inhibit government’s ability to preclude or minimize such losses.

  Essential: are functions that provide necessary university services to the public which are not deemed “critical functions.”

  Non-Critical: While a non-critical service may be critical to your unit during normal operations, during an emergency you may be able to provide basic services without providing non-critical functions.

  Please list those non-critical functions here.

• Contact person(s) for this business continuity plan: Please name the primary contact person

• Please name three (3) continuity coordinators for your unit: (Note: These coordinators will be responsible to coordinate with OEM, NUIT, and business continuity planner on new programs, policies, and developments) (Note: The three persons named continuity coordinators shall be responsible for understanding the BCP plan. This prompt ensures that there is continuity redundancy. Please provide three individuals – we will also copy these coordinators when sending out any information related to business continuity.)

  1.
  2.
  3.
Part 2 ACTION ITEMS TO INCREASE OUR READINESS

“An ounce of prevention is worth a pound of cure.”

The most effective way to handle a major disaster is to act ahead of time to reduce the potential impacts. Our business continuity plan identifies a number of such mitigation actions.

We call them ACTION ITEMS.

Some of these Action Items may be doable now. Others may require additional resources. Still others may be within the province of another unit, or of the campus as a whole. Taken together, these Action Items are the most important outcome of business continuity planning – a “To Do List” for disaster readiness.

The list of action items may not fully apply to your unit. Please address action items which apply and use the table to identify action items and process for addressing open items.

Action Item

1) Develop plan for alternate space – In your last continuity update, many units listed TBD or EOC. You can do the same here or you can develop a plan to identify alternate space.

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

2) Request faculty to develop strategy for alternate channel delivery of courses (if applicable) – If applicable

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

3) Develop strategy for secure storage of non-electronic materials – This section is asking you whether you have contracted an off-site document storage provider. If you have not done so and you maintain documents which are sensitive and/or critical, you may want to start identifying resources for off-site storage. This can be helpful as you develop your next budget.

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>
4) **Do periodic trial recoveries of servers/applications** - We are asking if you are already conducting trial recoveries of all your servers and applications. If you are not already doing so, please develop a plan to begin conducting trial recoveries.

5) **Have department IT manager discuss work-from-home issues** – If you haven’t already done so, work with your IT manager/department to develop a strategy which allows your staff to work from home. You may want to consider allowing employees one day per month or quarter that they can VPN from home. This will build capacity for your organization should an emergency impact the university. This section is asking you to develop the strategy and think about how you may implementing any future policies/programs.
6) **Make mutual arrangements with other units, schools, research centers to borrow technical staff if needed during a recovery**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

7) **Cross train 2 staff members to process key functions**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

8) **List all critical functions and develop plan to cross train**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>
9) Cross train 2 staff members to do departmental purchasing

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
</tr>
<tr>
<td>Within whose scope:</td>
</tr>
<tr>
<td>Status:</td>
</tr>
</tbody>
</table>

10) Investigate if current purchasing procedures have restrictions/limits and list any limits – Identify if your NU credit card has a daily spending limit or if you have any other spending restrictions. Identifying these limits/restrictions helps us plan policy updates.

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
</tr>
<tr>
<td>Within whose scope:</td>
</tr>
<tr>
<td>Status:</td>
</tr>
</tbody>
</table>

11) Obtain 2 alternative purchasing mechanisms – In the event NU is impacted by a city-wide or regional event, your unit is going to have to identify vendors which operate outside of the impacted area.

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
</tr>
<tr>
<td>Within whose scope:</td>
</tr>
<tr>
<td>Status:</td>
</tr>
</tbody>
</table>
12) **Ensure your network allows authorized users to connect remotely**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
</tr>
<tr>
<td>Within whose scope:</td>
</tr>
<tr>
<td>Status:</td>
</tr>
</tbody>
</table>

13) **Ensure key network users have been trained and remote hardware has been configured for remote access**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
</tr>
<tr>
<td>Within whose scope:</td>
</tr>
<tr>
<td>Status:</td>
</tr>
</tbody>
</table>

14) **Develop a fund for emergencies** - This ties in with any restrictions you may have with purchasing. In this section we are asking you to identify funds which can be set aside for use during emergencies.

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
</tr>
<tr>
<td>Within whose scope:</td>
</tr>
<tr>
<td>Status:</td>
</tr>
</tbody>
</table>
Part 3 INFORMATION & STRATEGIES FOR OPERATING DURING CRISIS
How to continue or resume our critical functions

A. CRITICAL FUNCTIONS
(Use the outline below for each identified critical function as identified in Part 1)

Critical Function #1:

- Description of this critical function:

- Section or unit that performs this function: (if applicable)

- Responsible person(s):

- Upstream dependencies (units or systems whose failure-to-perform will affect us):

- Downstream dependencies (units or systems that will be affected by our failure-to-perform):

- Peak periods and/or Critical Timeframes: Comment on peak periods and/or timeframes

- Space: How to perform this function if the usual space is not available:

- Equipment: How to perform this function if the usual equipment is not available:

- Staff: How to perform this function if faculty/staff absenteeism averages 50% for two months (e.g. during pandemic flu):

- Unique skills: Are there any personnel with unique skills, knowledge, or files whose absence would create difficulty?
• Working at home: Can this critical function be performed with some (or all) staff working from home? What equipment, supplies, and arrangements would be needed?

• Data networks: How to perform this function if computer networks are not available:

• Show Stoppers (resources that cannot be replaced, substituted, or done without):

• Campus closure: If campus closure were declared, would it be POSSIBLE to stop doing this critical function for a month or two?

• Risks generated by using alternate procedures:

• Policy exceptions needed for alternate procedures (& who can grant these exceptions):

• Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

• Recovery Point Objective: how far back in time can transactions and data associated with this function be restored to avoid unacceptable loss.

• Vital Records for restarting this function: Where are they located and how can copies be obtained?
- Consequences of failure to re-start this function

<table>
<thead>
<tr>
<th>Possible Harmful Consequence</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruption of teaching</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Disruption of research</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Loss of faculty</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Loss of staff</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Loss of students</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Well-being of students</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Legal harm to university</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
</tbody>
</table>
B INFORMATION TECHNOLOGY

Recovery Details for Applications:
(Use the outline below for each identified application)

Application #1:
- Name of Application

- Type of application:

- Functional owners:

- Technical expert:

- Person responsible for recovery:

- Is this a database application?

- Does this application move data to or from core campus systems?

- If so, what systems?

- Departments impacted by failure of this application:

- Peak periods and/or Critical Timeframes: Comment on peak periods and/or timeframes
• Recovery Time Objective: when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

• Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.

• Backup medium:

• Backup auto or manual?

• Online storage at:

• Offsite storage at:

• Installation disks and documentation located:

• Successful recovery ever conducted? When?

• Comments:

Application #2

• Name of Application

• Type of application:
• Functional owners:

• Technical expert:

• Person responsible for recovery:

• Is this a database application?

• Does this application move data to or from core campus systems?

• If so, what systems?

• Departments impacted by failure of this application:

• Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

• Backup frequency:

• Backup medium:

• Backup auto or manual?

• Online storage at:
• Offsite storage at:

• Installation disks and documentation located:

• Successful recovery ever conducted? When?

• Comments:

Recovery Details for Servers:
(Use the outline below for each identified application)

Server #1
• Name of server:

• Type:

• Server Software:

• Technical Expert:

• Person responsible for recovery:

• Applications impacted by failure of this server:
• Departments impacted by failure of this server:

• **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes

• Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

• Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.

• Backup frequency:

• Backup media:

• Backup auto or manual:

• Onsite storage at:

• Offsite storage at:

• Offsite storage frequency:

• Installation disks and documentation located:
• Successful recovery been done – when?

• Comments:

Backup of Workstations:
• Computer users (faculty/staff/students) in this unit backup workstations as follows:

<table>
<thead>
<tr>
<th>Backup Method</th>
<th>Percent of users who use this method</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>User files are stored on departmental server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backup by NUIT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local backup of workstation by user (automatic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local backup of workstation (manual)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No backup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• Workstation support is performed by: (comments)

IT Strategies:
• Purchasing: How to purchase new hardware quickly:

• Disks and documentation: Location of software and related documentation

• Special environmental needs for IT equipment:

• Technical staff: Will your technical support staff be adequate during an emergency?

• Obstacles: Potential obstacles that could hinder quick re-establishment of critical IT services:
• Work from home: IT strategies that will enable & support users to work from home:

• Systems that lack workarounds: Systems or applications that could NOT be replaced temporarily by ‘workarounds’.

C UNIT PREPAREDNESS
Unit plan to promote preparedness:

Plan Distribution Policy:
(insert policy here)

Unit Communication Procedure:
• Staff Phone Tree (insert staff phone tree with NU email, personal email, cell, text-enabled cell information, and distance from campus)

Disaster Recovery/Business Continuity Assessment Teams:

• Core Disaster Recovery/Business Continuity Team: (oversee the overall disaster recovery and business continuity efforts)
  • Staff Assigned
  •
  •
  •
  • Roles and Responsibilities
  •
  •
  •

• Damage Assessment Team: (determine the extent of damage and salvageable items)
  • Staff Assigned
  •
  •
  •
  • Roles and Responsibilities
  •
  •
  •
• **Continuity/Resumption Team:** (carry out alternate business continuity activities during an outage)
  - Staff Assigned
  - Roles and Responsibilities

• **Other Teams:** (ie Emergency Response Team, Recovery Team, Restoration Team, etc)

**Action Items:**

- Do the previous sections of this plan (3A Critical Functions and 3B IT) contain action items related to the preparedness of individual staff/faculty/students?

- Comments:

- Are there any other action items you would like to add?

**D KEY PEOPLE & RESOURCES**

**Communication Resources:**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Emergency home contact list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who keeps printed copies?</td>
</tr>
<tr>
<td>Who:</td>
<td>All staff</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Staff emergency contact list</td>
</tr>
<tr>
<td>Resource:</td>
<td>Emergency home contact list (faculty)</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Question:</td>
<td>Who keeps printed copies?</td>
</tr>
<tr>
<td>Who:</td>
<td>All faculty</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Faculty list</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Emergency home contact list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who maintains it?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td>Where is it maintained and stored?</td>
</tr>
<tr>
<td>Comment:</td>
<td>How often?</td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Important email lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who holds these?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>List of students (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who holds these?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td>Student roster</td>
</tr>
</tbody>
</table>

| Resource: | System accounts shared by several people |
| Question: | What are these and who knows them? |
| Who: |  |
| Location: |  |
| Comment: |  |
| Additional Info: | List all shared passwords |

| Resource: | Accounts used by employees |
| Question: | What are these and who knows them in case staff is not available? |
| Who: |  |
| Location: |  |
| Comment: |  |
| Additional Info: |  |

<p>| Resource: | Recorded messages on phone lines |
| Question: | Who has access and knowledge to record/change these? |
| Who: |  |
| Location: |  |
| Comment: | How many lines? |
| Additional Info: |  |</p>
<table>
<thead>
<tr>
<th>Resource:</th>
<th>Message posted on departmental web site(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who has access and skills to post these?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Text-messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Which staff have text messaging on phones?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Other communications tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>What is available?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>
## Working from Home:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Home computer adequate?</th>
<th>Broadband Connection?</th>
<th>Currently uses campus fileservers from home?</th>
<th>Currently uses campus enterprise applications from home?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Critical or Key Staff:

(copy and paste additional table for each key staff member)

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title or Function:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special Skill:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How far from campus:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Car:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>License Plate:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Email (NU):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Email (Alternate):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work Phone:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell Phone:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Home Phone:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
**Key Staff of Other Campus Units:**
(copy and paste additional table for each staff member or unit)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Department:</td>
<td></td>
</tr>
<tr>
<td>Work Address:</td>
<td></td>
</tr>
<tr>
<td>Work Phone:</td>
<td></td>
</tr>
<tr>
<td>Work Cell:</td>
<td></td>
</tr>
<tr>
<td>Cell Phone:</td>
<td></td>
</tr>
<tr>
<td>Home Phone:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email (NU):</td>
<td></td>
</tr>
<tr>
<td>Email (Alternate):</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
</tbody>
</table>

**Key Off-Campus Partners:**
(copy and paste additional table for each partner)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td></td>
</tr>
<tr>
<td>Work Address:</td>
<td></td>
</tr>
<tr>
<td>Work Cell Phone:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
</tbody>
</table>
### Key Vendors:
(copied and paste additional table for each vendor)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Organization:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work Address:</th>
<th>Work Cell:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fax:</th>
<th>Email:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comment:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alternate Vendor(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

### Key Others: donors, stakeholders, clients, customers

(copied and paste additional table for each contact)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Organization:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>Cell:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fax:</th>
<th>Email:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comment:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affiliation:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

### Office & IT Equipment:

In order to reestablish ________________ (department) to a functioning level, we would need at a minimum:

- ___ computers with appropriate software
- ___ monitors
- ___ workstations (desks, chairs, and other desk paraphernalia and supplies)
- ___ tables
- ___ filing cabinets
telephones
network connections
image scanner
office printers
combination photocopier and fax machine
(other please specify) ____________________________

Operating Requirements:

• Layout needed for working
  (Common workspace, individual offices, etc)

• Desks and table space Details
  (Number of desks, tables, office equipment)

• Telephones Details
  (Type, Numbers, Location)

• Computer Configuration Requirements

Other Equipment:
(if applicable)
• 
Supplies:
(if applicable)
  • Identify inventory strategy and what types of office supplies will be required for your unit to operate

  • Do you have a 2 week inventory?

  • What is your plan after a disruption?

Facilities:
(special space or facilities needed i.e. loading dock or bulk/heavy equipment for your operations)
  •

E TESTING
(Insert proposed testing schedule)
Function Based
Business Continuity Planning

Purpose
Since 1999, Business Continuity planning has been an on-going process at Northwestern University. On an annual basis, plans are updated, edited, and revised to reflect organizational and functional changes. That is, plans evolve as organizations ebb and flow. Increasingly, critical functions have become dependent on IT systems and upstream and downstream partners. For example, when ‘Cash-Out’ (funds leaving the university) functions are activated; funds may pass through Student Accounts, Student Loans, and the Bursar’s office. Obviously, there are many entities involved in paying out or disbursing funds but the function is defined as ‘Cash-Out’. From a disaster or emergency perspective, understanding the ‘Cash-Out’ function is critical. To understand this function is to understand how the various units which make up the function interact with one another. In addition, understanding the composition and connections within the function is crucial for business continuity activities. The purpose of this document is to begin the process of converting to a more robust business continuity program centered around critical functions\(^1\). This document will provide the foundation for developing function based plans.

This document will:

1. Provide you with a clear understanding of NU’s university-wide business continuity planning efforts.
2. Provide a brief history and information on why/how function groups were created.
3. Highlight the need for your organizational unit to develop or migrate to a cross-unit function centric planning model.

Background
Northwestern University’s Business Continuity Planning Program continues to develop and mature with each year. In 2008, Vice President Ingrid Stafford and NU Business Continuity Coordinator Sharlene Mielke initiated a process that requires all NU Central Administrative departments to update continuity plans on an annual basis. Today, all NUCAs are beginning the fifth annual update. In 2010 NU’s academic schools and programs were added to the planning cycle and have completed their second annual update. Finally, plan is underway within the Office for Research and its related Research Centers.

As the continuity program matures, training, exercise, and awareness programs will be developed and rolled out across the NU community.

Lessons Learned -- Function Groups
When the decision was made to develop business continuity plans for each University unit, the task appeared complicated and overwhelming. Reporting lines across schools, departments, and research units made plan

\(^1\) Critical Function – is defined as a function (such as cash in/cash out, mail services, order processing and voice services) without which the institution cannot operate or remain viable. If a critical business function is interrupted, the institution could suffer serious financial, legal, reputational, or other damages or penalties. Earliest possible restoration of such functions after a disruption is the main objective of business continuity planning.  (Read more: [http://www.businessdictionary.com/definition/critical-business-function.html#ixzz1jNVuIGXK](http://www.businessdictionary.com/definition/critical-business-function.html#ixzz1jNVuIGXK))
development extremely difficult. However, as continuity planning progressed, we realized that many activities in schools and even administrative departments could be combined into function groups\(^2\).

For example, initially individual plans were developed for the Motor Pool, Purchasing, and Printing Services. University Services’ most recent plan has integrated the separate documents into a single robust comprehensive strategy with the understanding that crisis operations require streamlining operations and pooling of resources to ensure critical functions, operations, and activities are maintained. By integrating the plans, we are able to get a clear understanding of how the organization operates and how the unit would function during a crisis.

Function groups make it possible to better manage the continuity program effectively and understand how the various organizational constituencies fit together to deliver core services. This holistic approach will strengthen the ability of the University, as well as each administrative department, academic school, and research unit to effectively and efficiently operate through and recover from a crisis event and ensuring the viability of the institution.

**Business Continuity Planning at Northwestern**

Individual plans are hard to track, maintain and update because of the sheer number of organizational units across Northwestern. In addition, critical functions often require multiple organizations to partner or participate to carry out specific activities. Understanding the connections which make up these functions is vital to ensuring critical functions are operational during times of crisis or emergency. Unit Coordinators and their teams have developed plans for each operational unit and focused attention on individual systems or services. Effective business continuity planning requires that individual units and plans plug into a larger effort to ensure NU can restore and continue critical functions during times of emergency.

Going forward, we are advocating converting existing plans based on the function groups planning model. Continuity plans will be structured around critical functions leveraging existing plans to serve as the foundation for creating function centric plans.

An initiative taken within NU Financial Operations demonstrates an example of converting to a cross unit functional planning model. NU Financial Operations is comprised of a variety of separate but dependent units charged with providing critical functions to and for the University. Their planning methodology provides a model for others to emulate in their endeavor to convert to a function based planning strategy (appendix A).

**Function Groups and Business Continuity Planning**

By design this function based continuity planning model will necessitate that each planning team work with its internal up and downstream dependencies (departments, services, systems, and personnel) to determine how each critical function can be delivered during and immediately following a crisis event. As an example, a few critical functions NUIT provides to the NU community are internet connectivity, voice and data services, as well as other functions. These services are connected by computer systems, network infrastructure, enterprise

\(^2\) *Function Group* - is defined as a collection of processes and procedures, computer systems, network infrastructure components, and support personnel which, when abstracted, can be more easily and obviously linked to the goals and objectives of the institution, ultimately supporting the success of the institution’s mission.
software and personnel. Administering these services requires NUIT employ various procedures, processes, and policies. The framework of how NUIT delivers one of these services would constitute a function group. This same logic applies to your organizational unit. You have listed various critical functions. Think about the composition of each function and who you interact with. As you think about your partners, key personnel, processes and systems required to carry out this function, use the following identification markers to develop each function group.

- Identify policies and procedures necessary to provide the critical function;
- Identify how partners and staff communicate and interact with one another for the critical function;
- Identify a list of programs and applications that are used to deliver the critical function;
- Inventory computer systems and infrastructure related to the critical function;
- Create procedural or dependency diagrams.

Advantages of Creating Function Groups
The advantages of creating Function Groups include the following:

1. By looking at larger groups, services, or systems, we can identify vulnerabilities or planning gaps across Northwestern University and/or specific departments.
2. By identifying gaps we can then develop gap closeout strategies and action items. These action items can help your organizational unit justify resource requests to close out action items or identify those that may inhibit your organization from activating components of continuity plans and which may also challenge daily operations.
3. Creating Function Groups streamlines the management of the business continuity program. Currently, plan creation and updates are cumbersome due to the excessive number of individual plans within each area. Many of these plans are interdependent but otherwise not coherently linked.
4. By creating Function Groups, the institution can get a better understanding of the operations of your organization and provide a mechanism to define and manage recovery and continuity capacity for the NU community.

Conclusion
Function groups will not only help your organization respond and continue delivering critical services during a prolonged crisis, it will help identify, mitigate, and close gaps that may be obscured under the current format.

If you have any questions regarding function based continuity planning, please contact Sharlene Mielke at s-mielke@northwestern.edu or by phone at 7-7804.
Function Group Conversion Model

Major Steps to convert existing Business Continuity plans to a Function Based Business Continuity Planning Model:

1. Kick-off meeting
2. Identify top critical functions from a high level departmental perspective
   a. Most functions can be categorized into three general categories;
      - **Critical**: are functions which have a direct and immediate effect on the general university in terms of the loss of life, personal injury, loss of property, and/or the ability of the University to maintain direction and control. The loss of a critical function may either result in such losses or inhibit the University’s ability to preclude or minimize such losses. Additionally, the institution could suffer serious financial, legal, or other damages or penalties.
      - **Essential**: are functions that provide necessary university services to the institution and community which are not deemed “critical functions.” These functions could cause a substantial service or operational disruption and/or a substantial financial loss to the university or have severe reputational consequences.
      - **Important**: while an important function or service may be critical to your unit during normal operations, during an emergency you may be able to postpone or forgo these activities throughout the crisis response.
   b. It is also imperative to separate the function, which creates a desired outcome, from the method, which is a way of performing a function
3. Select 1-3 identified critical functions for initial conversion initiative
4. Identify planning team members and plan “manager”
   a. Kick-off meeting
   b. Identify processes/procedures and/or systems necessary to accomplish function
   c. Identify upstream & downstream dependencies
   d. Identify critical timeframes
   e. Develop and document business continuity plan for the critical function
   f. Training and awareness
   g. Exercise
   h. Identify open items, gaps, or unknowns
   i. Update plan
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Essential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraordinary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical**: functions which have a direct and immediate effect on the general university in terms of the loss of life, personal injury, loss of property, and/or the ability of the University to maintain direction and control. The loss of a critical function may either result in such losses or inhibit the University’s ability to preclude or minimize such losses. Additionally, the institution could suffer serious financial, legal, or other damages or penalties.

**Essential**: functions that provide necessary university services to the institution and community which are not deemed “critical functions.” These functions could cause a substantial service or operational disruption and/or a substantial financial loss to the university or have severe reputational consequences.

**Extraordinary**: functions which are not typically performed during normal operations but which may need to be performed during a time of crisis. Examples of these types of functions include but are not limited to crowd control, evacuation management, portable generator placement and management, etc.
### Critical

Functions which have a direct and immediate effect on the general university in terms of the loss of life, personal injury, loss of property, and/or the ability of the University to maintain direction and control. The loss of a critical function may either result in such losses or inhibit the University’s ability to preclude or minimize such losses. Additionally, the institution could suffer serious financial, legal, or other damages or penalties.

### Essential

Functions that provide necessary university services to the institution and community which are not deemed “critical functions.” These functions could cause a substantial service or operational disruption and/or a substantial financial loss to the university or have severe reputational consequences.

<table>
<thead>
<tr>
<th>Top Office for Research Reported Functions</th>
<th>Top Unit Reported Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental Function 1</td>
<td>Unit Function 1</td>
</tr>
<tr>
<td>Departmental Function 2</td>
<td>Unit Function 2</td>
</tr>
<tr>
<td>Departmental Function 3</td>
<td>Unit Function 3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>List Your Core/Essential Tasks</td>
<td>Unit to Support or Deliver Task</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other Activities**

<table>
<thead>
<tr>
<th>Other &quot;Must Do&quot;</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other &quot;Should Do&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discretionary**

| Total Staffing |                                |            |       |                             |                                                  |                                                  |                                |                          |
Generally Accepted Practice for Backing-Up Data

Research shows that businesses that lose their data or whose data becomes corrupt are severely hampered for a significant amount of time and may never fully recover from the loss, yet less than 10% have an adequate business continuity plan for data recovery. The business cost caused by having data inaccessible even for a short time can be catastrophic. Departmental, personal and university backups are essential in helping prevent permanent data loss.

What is Data Backup?
Backing up is the process of copying data for use in the event that original data is lost, stolen, or corrupted. Additional copies of data are called backups.

Why is Backup Necessary?
Regular data backups reduce the risk of permanent data loss. Some common causes of data loss or corruption include:

- Hardware failure
- Power failure or surge
- Fire, flood, or other natural occurrence
- Theft
- Cyber vulnerabilities

To avoid data loss associated with these events, implement practices to regularly back up information. Choose a backup strategy that fits your specific needs taking into consideration frequency, type, storage media, and content.

Accepted Practices
A comprehensive backup strategy should incorporate all of the following:

- Multiple copies
- Multiple locations
- Multiple storage media
- Multiple validation tests

Multiple copies – To ensure the maximum reliability of backed up data, methods to create multiple versions should be employed. One approach to achieve this goal is to schedule a periodic full system backup along with more frequent incremental backups. While not fully redundant the potential data loss can be reduced utilizing this methodology.
**Multiple locations** – To avoid total data loss it is imperative to adopt the concept of geographic diversity and store backup datasets at physically separate locations. The locations should be at least 10 miles apart to survive a localized crisis that may impact multiple buildings within a localized area.

**Multiple storage media** – To address a concern related to technology failure of an individual storage media type, consider implementing at least two different storage technologies, examples include local external hard drive, remote network or hosted storage, optical media drives, and tape drives.

**Multiple validation tests** – To confirm the selected backup strategy is viable and to ensure the integrity of the data as valid and that it can be successfully restored when needed, equipment, media and processes should be tested regularly. Periodically restoring data provides assurance of the reliability of the backup regimen.

By employing a well thought out comprehensive backup routine that includes multiple copies, storage locations, media, and tests, the impacts of data loss or corruption can be significantly reduced thereby ensuring restoration to normal operations in a timely and efficient manner. Depending on business needs, Northwestern University Information Technology offers multiple secure hosted data backup solutions that will allow a University department, school, or research center to satisfy all of the generally accepted practices outlined here. Alternatively, taking advantage of Northwestern University’s geographically separate campus’s provides a means to conveniently meet some of these guidelines independently.

For more in-depth information regarding data backup and security guidelines refer to National Institute of Standards and Technology “Guide to General Server Security” (NIST 800) or alternatively visit the SANS Institute website at www.sans.org.
Hurricane Sandy – NYU Experience  
Sheenah Mische, Sr Director, Office of Collaborative Science  
Conference Call May 30, 2013

“Think of the worst, then go well beyond that in planning”  
- Sheenah Mische

Impacts:
- Hurricane Sandy resulted in water levels that reached an estimated overall depth of 14 feet, and more than 15 million gallons of water flooded the lowest floors of every building on the main campus.
- Storm surge
  - Buildings designed to withstand a storm surge 20% greater than the largest surge in recorded history in NYC.
  - Minutes to evacuate staff in vivarium (located in basement)
- Widespread disruption – loss of power, lights, heat, water, telecommunications, networking
- Lost all power including all emergency backup power
  - Generators on the roof, fuel tanks in the basement per NYC code
  - 500 scientists directly impacted by building loss; campus-wide disruptions impacted all medical and research infrastructure and support
    - can only move a fraction of equipment and supplies
    - temporary space is 1/10 the size of original location
- Currently have 2 buildings not recoverable and slated for destruction
  - 1 additional building will be rehabilitated for staged reoccupancy in late 2013-mid 2014
- Power restoration took as much as 6 days for one NYU building
- Heating restoration took up to 3 weeks

Response and Recovery (ongoing):
- Pre-event
  - Sister academic centers Memorandums of Understanding (MOUs)
    - Moved freezers, animals, specimens, etc.
    - Offered lab space, animal facilities
  - Had taken biostorage samples to remote locations well before as part of mitigation
- Post-event
  - Research recovery was a “Staged Process”
    - Respond to immediate needs
    - Document losses
    - Systematically replace losses
  - A massive triage effort
    - Minimal centralized prioritization of research recovery efforts
    - Need strong leadership to counter individual efforts that were often at odds with needs of the many. Scientists by nature are problem solvers, independent contributors, motivated to preserve their life’s work; actively made private deals with external colleagues
    - Had trouble finding enough flashlights, rain gear, food, heaters, etc.
  - Communication and outreach was challenging
    - Resorted to texting among key decision makers for as much as 1 week
    - Outreach, weekly message, inspiration from the dean
Space
- Aging infrastructure
- Daily revision of project scope, timeline as debris removed, revealing further damage
- Logistics, coordination and oversight of multiple, overlapping subcontractors
- Loss of “swing space” for intermediate storage
- Relocation of people, labs etc. was a huge effort
- Animals
  - Cryopreservation key for recovery of animals
- Cores – From a biomedical research enterprise perspective, centralized resource centers/cores are both critical and highly vulnerable due to the concentration of instrumentation and resources for research support.
  - Enacted “one-stop shopping” – reached out and arranged outsource contracts with other academic institutions, commercial vendors to accommodate researchers
  - Enacted distributed model of resources (instrumentation, services) to meet needs of research
  - Biorepository Core: 100% of biospecimen in NYULMC BioRepository was securely stored offsite, BUT the majority of NYULMC investigators had research collections stored in individual freezers representing biobanks of a career. The Core worked with two vendors, Biostorage & Cryostar, to facilitate emergency retrieval and relocation off campus of more than 1 million biospecimen held in 1000 freezers from Bellevue, NYU and VA laboratories representing both clinical and research operations
  - Vendors made concerted effort to meet daily and varied needs of laboratories
  - “Gentlemen’s handshake” – Deals made on the fly then later formalized
  - Massive consolidation by other schools

Financial
- Within two weeks, recovery funds established for all Investigators to ensure adequate liquidity
  - Funding was based upon three months historical spending
  - Not perfect, but efficient
- FEMA, NIH, other funding bodies; state and local assistance (declared disaster)
- Insurance, Private donations

Morale
- Have had faculty move elsewhere
  - Frustration is high
  - Some believe progress should be happening faster
  - Mitigate frustration, a lot of meetings

Compliance & reporting
- Compromises have had to be made
  - Chemical storage – have had to pay fines being as some areas are out of compliance

Preparedness Efforts:
- Emergency management, continuity, and recovery plans
  - Institutional emergency management plans in place
  - Continuity/Recovery plans
    - Some research continuity and recovery plans
    - Some medical center continuity and recovery plans
    - No academic continuity and recovery plans
- No single department had own plans, had senior level and dean level but virtually none below that
- NONE well integrated with one another
- Institution in year 3 of 5 of a power plant build out and redundancy initiative
  - Moving power source and generation 7 floors above ground
- Documentation of capital assets – Update often!
  - Match with institutional systems
  - Make, model, serial numbers
  - Grant funding data, if applicable
  - Link locations, receipts, and PO numbers.
  - Service contracts, warranty, service history
  - Tag both asset and paperwork – ensure asset documentation is linked to purchase info
  - Take pictures of everything
  - Back up and store data on networks!

Lessons Learned:
- Have accommodations on or nearby to campus and crisis management centers
- This event has highlighted the benefits of collaboration and sharing
- Offsite storage of all precious biomaterials now a priority
  - Institutional model designed to ensure the safety of biosample assets for NIH supported research
  - Primary biosample collections managed and stored in facilities designed to withstand all adverse events
  - This ensure research continuity for resources and protects samples for future awards and collaborations
- In the midst of an extended duration response and recovery effort and even with a great deal left to be completed need to take time to celebrate how much has been accomplished
- “Think of the worst, then go well beyond that in planning”
Business Continuity Plan

Robert R. McCormick School of Engineering and Applied Science (Redacted)

Lead Author : XXXXX
Revision Date : March 16, 2015
DEPARTMENT OF Robert R. McCormick School of Engineering
BUSINESS CONTINUITY PLAN

PART 1  GENERAL INFORMATION

PART 2  ACTION ITEMS TO INCREASE OUR READINESS

PART 3  INFORMATION & STRATEGIES FOR OPERATING DURING CRISIS

A  CRITICAL FUNCTIONS

B  INFORMATION TECHNOLOGY
   Recovery Details for Applications:
   Recovery Details for Servers:
   Backup of Workstations:
   IT Strategies:

C  UNIT PREPAREDNESS
   Plan Distribution Policy:
   Unit Communication Procedure:
   Disaster Recovery/Business Continuity Assessment Teams:
   Action Items:

D  KEY PEOPLE & RESOURCES
   Communication Resources:
   Working from Home:
   Critical or Key Staff:
   Key Staff of Other Campus Units:
   Key Off-Campus Partners:
   Key Vendors:
   Key Others: donors, stakeholders, clients, customers
   Office & IT Equipment:
   Operating Requirements:
   Other Equipment:
   Supplies:
   Facilities:

E  TESTING
Part 1 GENERAL INFORMATION

- This business continuity plan is for:
  McCormick School of Engineering and Applied Science

This unit’s “parent” department is:
McC is a semi-autonomous component college of Northwestern University with a mission of teaching the art and science of design engineering to undergraduate and graduate students and researching new knowledge and designing innovative solutions to the array of technological problems confronting society.

- Number of personnel
  - Faculty & Other Appointees: 183 Permanent tenure/tenure track/clinical and 94 research appointments
  - Staff (full-time): 196
  - Staff (part-time): minimal
  - Student Staff: minimal
  - Student Population: 279 Department MS, 820 PhD, 294 post docs and 1,425 undergraduate students
  - Other: 402 Professional MAS – 7 Professional masters programs which generally meet in the evenings or weekends in xxxx and xxxx with approximate average class size of 30

- Unit Organizational Chart: Please see exhibit A

- Location(s):
The school’s assigned faculty, staff, student and research spaces are primarily located in six major buildings (XXXX, XXXX, XXXX, XXXX, XXXX, XXXX) on the XXXX end of the university’s XXXX campus. These buildings are physically inter-connected with enclosed bridges or walkways and electronically connected through the university’s telephone and data infrastructure. McC has some faculty office and research space also located in the XXXX campus “XXXX” area at XXXX approximately XX mile XXXX of the XXXX campus location and at XXX research centers at XXXX in XXXX. Additionally, we have one major research institute and a number of faculty offices located on the XXXX campus. The XXXX campus buildings are shared primarily with the XXXX departments of the XXXX School. The XXXX campus spaces are co-located with the XXXX.

- Any rented Space? Y/N – Locations No

- Critical Functions performed by this unit. (Functions essential to the service activities during a major crisis):
McC faculty teach daily (generally Monday through Friday) classes to undergraduates during the three academic quarters (September through June). McC faculty also teach graduate courses for traditional masters
and doctoral students during essentially the same periods. Additionally, McC faculty teach courses for professional masters degree students during evening and weekend times during the academic year. Teaching operations are limited during the summer quarter.

- McC permanent and research faculty, doctoral, postdoctoral students, visiting scholars, and some undergraduates conduct research operations across the full spectrum of engineering disciplines throughout the calendar year. Much of this research consists of experimentation and data collection twenty-four hours per day (24/7). The research infrastructure consists of laboratories, centers and facilities with technologically sophisticated and costly measurement, characterization, and computing equipment supported by the university’s electrical, chill/process cooling-water, heating, air conditioning, compressed air, specialized gas, and data infrastructures.

- Extraordinary functions (special functions that this unit may need to perform during a time of crisis): N/A

  Is there a specific plan for this extraordinary function?

- N/A

- Functions judged to be non-critical:

  - N/A

- Contact person(s) for this business continuity plan:

  Associate Dean Administration, Finance & Planning – XXXX
  Building Manager – XXXX

- Please name three (3) continuity coordinators for your unit: (Note: These coordinators will be responsible to coordinate with OEM, NUIT, and business continuity planner on new programs, policies, and developments)

  1. Senior Associate Dean - XXXX
  2. Associate Dean Administration, Finance & Planning – XXXX
  3. Manager Facilities, Space & Safety – XXXX
Part 2  **ACTION ITEMS TO INCREASE OUR READINESS**

“An ounce of prevention is worth a pound of cure.”

The most effective way to handle a major disaster is to act ahead of time to reduce the potential impacts. Our business continuity plan identifies a number of such mitigation actions.

We call them **ACTION ITEMS**.

Some of these Action Items may be doable now. Others may require additional resources. Still others may be within the province of another unit, or of the campus as a whole. Taken together, these Action Items are the most important outcome of business continuity planning – a “To Do List” for disaster readiness.

The list of action items may not fully apply to your unit. Please address action items which apply and use the table to identify action items and process for addressing open items.

**Action Item**

1)  **Develop plan for alternate space**

<table>
<thead>
<tr>
<th><strong>Supports which critical function:</strong></th>
<th>Obtain status of facilities from Evanston Fire &amp; Police and NU University Police. Based on status of the building, decide on return to buildings or relocate to NU Emergency Central. Wait for guidance from FM and ORM and NU UP.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimated cost:</strong></td>
<td>Depends on the status of the space</td>
</tr>
<tr>
<td><strong>Is cost one-time or annual:</strong></td>
<td>Depends on the status of the space</td>
</tr>
<tr>
<td><strong>Within whose scope:</strong></td>
<td>Senior Associate Dean XXXX, Associate Dean XXXX, Manager XXXX</td>
</tr>
<tr>
<td><strong>Status:</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

2)  **Request faculty to develop strategy for alternate channel delivery of courses (if applicable)**

<table>
<thead>
<tr>
<th><strong>Supports which critical function:</strong></th>
<th>Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimated cost:</strong></td>
<td>Depends on nature of alternate channel</td>
</tr>
<tr>
<td><strong>Is cost one-time or annual:</strong></td>
<td>Depends on nature and degree of crisis</td>
</tr>
<tr>
<td><strong>Within whose scope:</strong></td>
<td>Associate Dean XXXX</td>
</tr>
<tr>
<td></td>
<td>Senior Associate Dean XXXX</td>
</tr>
<tr>
<td><strong>Status:</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>
3) Develop strategy for secure storage of non-electronic materials

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>Strategy for secure storage of non-electronic materials -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td>Depends on where back-up site is located (on campus or off campus)</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td>Depends on length of crisis</td>
</tr>
<tr>
<td>Within whose scope:</td>
<td>Senior Associate Dean XXXX, Associate Dean XXXX Manager XXXX</td>
</tr>
<tr>
<td>Status:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

4) Do periodic trial recoveries of servers/applications

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>The data for our School of Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td>Already in the budget</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td>Annual</td>
</tr>
<tr>
<td>Within whose scope:</td>
<td>XXXX</td>
</tr>
<tr>
<td>Status:</td>
<td>Ongoing – Individual computers get backed up nightly and stored in XXXX. Shared file server, the web and database servers are backed up daily to disks/tap in XXXX. Full backups are taken every two weeks are stored XXXX.</td>
</tr>
</tbody>
</table>

5) Have department IT manager discuss work-from-home issues

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>IT works w/faculty and staff work from home issues on a per faculty/staff basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td>In IT budget</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td>Annual</td>
</tr>
<tr>
<td>Within whose scope:</td>
<td>XXXX</td>
</tr>
</tbody>
</table>
6) **Make mutual arrangements with other units, schools, research centers to borrow technical staff if needed during a recovery**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>Communication with other units, schools, and research centers will be essential during recovery. We maintain professional relationships with all schools within NU.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td>Depends on the request</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td>Depends on the duration of the request</td>
</tr>
<tr>
<td>Within whose scope:</td>
<td>Arrangements would be made between the Deans and IT directors of the schools</td>
</tr>
<tr>
<td>Status:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

7) **Cross train 2 staff members to process key functions**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>McC has Administration team meetings weekly to keep on top of all the projects/events occurring within the school.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td>Part of the Budget</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td>Depends on the nature of the crisis</td>
</tr>
<tr>
<td>Within whose scope:</td>
<td>Senior Associate and Associate Deans</td>
</tr>
<tr>
<td>Status:</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

8) **List all critical functions and develop plan to cross train**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>Critical functions are those day to day operations that allow the school to run efficiently. McC Deans, Directors and Department Chairs collaborate and share information.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td>In Budget</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td>Depends on the crisis</td>
</tr>
<tr>
<td>Within whose scope:</td>
<td>McC Administration</td>
</tr>
<tr>
<td>Status:</td>
<td>On-going</td>
</tr>
</tbody>
</table>

9) Cross train 2 staff members to do departmental purchasing

| Supports which critical function: | McC Administration has oversight and XXXX approval for all departmental/unit purchasing |
| Estimated cost: | NA |
| Is cost one-time or annual: | NA |
| Within whose scope: | XXXX, XXXX |
| Status: | On-going |

10) Investigate if current purchasing procedures have restrictions/limits and list any limits

| Supports which critical function: | Purchasers need to be set up in the XXXX system. Level I or II authority is assigned. |
| Estimated cost: | N/A |
| Is cost one-time or annual: | N/A |
| Within whose scope: | XXXX |
| Status: | Limits on approving orders, not placing orders |

11) Obtain 2 alternative purchasing mechanisms

<p>| Supports which critical function: | P Card |
| Estimated cost: | N/A |</p>
<table>
<thead>
<tr>
<th><strong>Is cost one-time or annual:</strong></th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within whose scope:</strong></td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>Status:</strong></td>
<td>Active</td>
</tr>
</tbody>
</table>

12) Ensure your network allows authorized users to connect remotely

<table>
<thead>
<tr>
<th><strong>Supports which critical function:</strong></th>
<th>Ability for McC Admin and Departments/Units to continue to operate all business activities remotely.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimated cost:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Is cost one-time or annual:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Within whose scope:</strong></td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>Status:</strong></td>
<td>Already set-up for appropriate faculty and staff</td>
</tr>
</tbody>
</table>

13) Ensure key network users have been trained and remote hardware has been configured for remote access

<table>
<thead>
<tr>
<th><strong>Supports which critical function:</strong></th>
<th>Key network users have been trained and remote hardware has been configured for remote access for many McC Admin and department staff.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimated cost:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Is cost one-time or annual:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Within whose scope:</strong></td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>Status:</strong></td>
<td>Currently trained</td>
</tr>
</tbody>
</table>

14) Develop a fund for emergencies

<table>
<thead>
<tr>
<th><strong>Supports which critical function:</strong></th>
<th>McC Admin does not maintain a petty cash mechanism for emergencies. The P Card is used. McC Admin budget includes reserve contingency for emergencies.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Details</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Estimated cost:</td>
<td>N/A</td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td>N/A</td>
</tr>
<tr>
<td>Within whose scope:</td>
<td>XXXX, XXXX</td>
</tr>
<tr>
<td>Status:</td>
<td>Contingency exists in school budget</td>
</tr>
</tbody>
</table>
Part 3 INFORMATION & STRATEGIES FOR OPERATING DURING CRISIS

A  CRITICAL FUNCTIONS

Critical Function #1:

- **Description of this critical function:**
  McCormick serves Northwestern’s primary mission of teaching students and conducting research. If operations were stalled, it would dramatically impact the university and its faculty, staff and students.

- **Section or unit that performs this function:** (if applicable): McCormick School of Engineering faculty and staff

- **Responsible person(s):**
  The entire school

- **Upstream dependencies** (units or systems whose failure-to-perform will affect us):
  Depending upon the time of year and the severity of the situation. We interface with:
  - NU Office of the Provost
  - NU Office for Business and Finance including
    - Financial Operations
    - Auditing and Compliance
    - Budget Office
    - Facilities Management
    - Human Resources
    - University Police
    - University Services
    - Risk Management
    - Accounting Services for Research and Sponsored Programs
  - NU Vice President for Research including
    - Office for Sponsored Research
    - Office for Research Safety
    - Office for Research Information Systems
    - Center for Comparative Medicine
    - Office for the Protection of Research Subjects (ACUC and IRB)
  - NU University Relations
  - NU General Counsel
  - NU Development
  - NUIT
  - NU International Office

- **Downstream dependencies** (units or systems that will be affected by our failure-to-perform):
  - 8 Academic Departments – including McC research faculty and their labs and clusters
  - 7 Professional Masters Programs
  - ~ 14 McC-based or Department-based Research Centers
  - ~ 10 Institutes and dean’s initiatives
  - Dean’s Offices
  - McCormick Career Development/Co-op Program
  - McCormick Corporate Relations
Students would be stalled in their undergraduate, masters or PhD progress. Valuable research work faces the potential of being lost and research efforts would be stalled. Approximately XXXX permanent staff could face disruption in their regular employment and income. Significant research funding could be lost due to McCormick’s inability to provide research data/deliverables to sponsors.

- **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes

  **Fall**
  - New student orientation
  - New faculty orientation
  - Quarter teaching and research
  - McCormick Advisory Council (MAC) meeting
  - Admissions Discover NU
  - Family Weekend
  - Annual Report & Research Expenditures
  - Promotion & Tenure
  - Provost Brief
  - Visa Handling
  - Student and student organization activities
  - Lab renovations
  - Payroll every 2 weeks

  **Winter**
  - Quarter teaching and research
  - Graduate Recruiting
  - Faculty Leave Requests & Reappointments
  - Visa Handling
  - Student and student organization activities
  - Payroll every 2 weeks

  **Spring**
  - Quarter teaching and research
  - Upcoming fiscal year budget planning
  - Admissions Preview NU
  - Faculty salary planning
  - New faculty recruitment
  - Staff performance review and salary planning
  - Graduate Admissions
  - Visa Handling
  - Student and student organization activities
  - Commencement
  - Payroll every 2 weeks

  **Summer**
  - Quarter teaching (limited) and research
  - Tech and Ford evacuation drills
  - Lab Renovations
  - Visa Handling
  - Payroll every 2 weeks
  - Heavier than usual research proposal and award activity coinciding with the close of the federal fiscal year
  - Closeout of the NU fiscal year

- **Space:** How to perform this function if the usual space is not available: McC would look to NU Emergency Central for assistance locating available space. Perhaps we can share space with another XXXX school.
- **Equipment**: How to perform this function if the usual equipment is not available: Classes can meet as long as there is space. Our researchers expect that their work will continue as soon as possible. Computational clusters for faculty must receive high priority and be restored promptly.

- **Staff**: How to perform this function if faculty/staff absenteeism averages 50% for two months (e.g., during pandemic flu): For classroom instruction, as long as NU is open and access is available to some buildings, classes will be held. McC would look into video classrooms. Classes could happen online or on a designated TV channel.

- **Unique skills**: Are there any personnel with unique skills, knowledge, or files whose absence would create difficulty? Faculty teach specific curricula – replacement for specific classes would not happen easily. We would resort to other faculty or perhaps adjuncts. McC Admin staff are cross-trained and experienced. Most personnel could step in if one person is unable to perform their job.

- **Working at home**: Can this critical function be performed with some (or all) staff working from home? What equipment, supplies, and arrangements would be needed? Some staff are set up to work remotely from home. This is done on a request basis. Remote access to email is available from any computer with internet access. McC has set up a VPN – virtual private network for anyone who would naturally be able to have access to the operating systems (staff and faculty). Once it is downloaded onto their private/home computer, all they need is their Net ID and password.

- **Data networks**: How to perform this function if computer networks are not available: Depends on nature and severity of the crises. If only affecting McC, we would seek support from other XXXX school(s). Once the machines across campus are restored, (either repaired or new) faculty and staff would be able to continue their work.

- **Show Stoppers (resources that cannot be replaced, substituted, or done without)**: On-going research that is funded by sponsored and other agencies is one-of-a-kind, sensitive, timely qualitative and quantitative information. Interruptions to research activity are definite show stopper.

- **Campus closure**: If campus closure were declared, would it be POSSIBLE to stop doing this critical function for a month or two – Teaching can be postponed/made-up. Lost research cannot be regained.

- **Risks generated by using alternate procedures**: Information to all the faculty, staff and students may be hard/difficult to distribute. Research environments require high level environmental control and configuration.

- **Policy exceptions needed for alternate procedures (& who can grant these exceptions)**: To be coordinated by McC Administration and the appropriate deans’ offices.

- **Recovery Time Objective**: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? McC Admin should be working ASAP.

- **Recovery Point Objective**: how far back in time can transactions and data associated with this function be restored to avoid unacceptable loss. Two (2) weeks for information stored on McC servers. Data and subject trials associated with research labs may not be able to be restored.

- **Vital Records for restarting this function**: Where are they located and how can copies be obtained? Administration & Finance – employee records and visa records are located in XXXX adjacent to XXXX and XXXX. Financial records are located in XXXX in XXXX. The majority of this information is also available on XXXX and/or university systems (XXXX, XXXX, etc.) or university files (XXXX files).

  Research Administration – formal proposal and award documents (hard copy and electronic) are stored at the XXXX and XXXX levels. This information is also available in hard copy and/or electronically within XXXX and XXXX.

  Undergraduate Engineering – student records are located in XXXX. The majority of this information is also available in NU systems such as XXXX.
Some records for McC IT are kept in XXXX. Electronic records are kept on the XXXX file server referred to above that is located in XXXX. Database and web information is kept on servers in XXXX. Back tapes and disks are kept in XXXX (XXXX office) and in XXXX.

- **Consequences of failure to re-start this function**

<table>
<thead>
<tr>
<th>Possible Harmful Consequence</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-2 days</td>
<td>1 wk</td>
</tr>
<tr>
<td>Disruption of teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disruption of research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of faculty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal harm to university</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part 4 INFORMATION & STRATEGIES FOR OPERATING DURING CRISIS

A INFORMATION TECHNOLOGY

Recovery Details for Applications:

Application #1:

- **Name of Application**: User services, amounting to file creation, editing, and sharing.
- **Type of application**: Desktop applications
- **Functional owners**: Individual departments/groups, managed by McCormick IT
- **Technical expert**: Senior IT Director, McC Administration, XXXX, User Support Manager, XXXX

**Person responsible for recovery**: User Support Manager, XXXX, User Support/Sys Specialist Sr, XXXX, User Support Specialist, XXXX, PC Systems Specialist, XXXX

- **Is this a database application?** No
- **Does this application move data to or from core campus systems?** No
- **If so, what systems?** N/A
- **Departments impacted by failure of this application**: All/any – individual systems utilize a variety of software packages, many of which are essential in day to day operations
- **Peak periods and/or Critical Timeframes**: N/A
- **Recovery Time Objective**: when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research? ASAP; most shared applications require basic functionality on end user systems. Immediate workarounds are available pending restoration of core services.
- **Backup frequency**: Workstations are backed up weekly, servers are backed up daily.
- **Recovery Point Objective**: how far back in time can systems and data be restored to avoid unacceptable data loss. 12 weeks
- **Backup medium**: Workstations backup to disk, servers backup to tape
- **Backup auto or manual?** Automated backups
- **Onsite storage at**: XXXX – tapes kept in XXXX, drives kept in XXXX.
- **Offsite storage at**: Tapes kept offsite at XXXX. XXXX not kept offsite at this time due to data security considerations.
- **Installation disks and documentation located**: XXXX, XXXX, XXXX;
- **Successful recovery ever conducted? When?** Basic recovery performed regularly (weekly).
- **Comments**:

Application #2

- **Name of Application**: Email services
- **Type of application**: Email/communications
- **Functional owners:** McCormick IT
- **Technical expert:** Senior IT Director, McC Administration, XXXX, User Support Manager, XXXX
- **Person responsible for recovery:** Senior IT Director, McC Administration, XXXX, User Support Manager, XXXX
- **Is this a database application?** No
- **Does this application move data to or from core campus systems?** No
- **If so, what systems?** N/A
- **Departments impacted by failure of this application:** McCormick Administration
- **Recovery Time Objective:** when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? Workarounds available in interim (e.g., use of phone for communications);
- **Backup frequency:** Daily (weekdays only)
- **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss. 4 weeks
- **Backup medium:** Tape
- **Backup auto or manual?** Automatic
- **Online storage at:** XXXX
- **Offsite storage at:** N/A
- **Installation disks and documentation located:** XXXX (XXXX)
- **Successful recovery ever conducted? When?** Files restored approximately twice a year on an as needed basis
- **Comments:**

**Application #3:**
- **Name of Application:** Network Services (DNS, DHCP)
- **Type of application:** Network infrastructure services
- **Functional owners:** McCormick School
- **Technical expert:** Senior IT Director McC Administration: XXXX, System Administrator: XXXX
- **Person responsible for recovery:** System Administrators: XXXX and XXXX
- **Is this a database application?** No
- **Does this application move data to or from core campus systems?** No
- **If so, what systems?** N/A
- **Departments impacted by failure of this application:** All/any – All Systems use DNS for day to day networking and DHCP provides ip address for many of the school computers.
- **Peak periods and/or Critical Timeframes:** N/A
- **Recovery Time Objective:** when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research? ASAP; most systems require these services for basic network functionality
- **Backup frequency:** Daily
- **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss. 12 Weeks
- **Backup medium:** backup to tape
- **Backup auto or manual?** Automated backups
- **Onsite storage at:** XXXX – tapes kept in XXXX, drives kept in XXXX.
- **Offsite storage at:** Tapes kept offsite at XXXX. Disks not kept offsite at this time due to data security considerations.
- **Installation disks and documentation located:** Systems are free opensource software available online worldwide and on media in XXXX of the XXXX building
- **Successful recovery ever conducted? When?** No
- **Comments:**

**Application #4**

- **Name of Application:** Web services (website, GATS, Annual Report, etc)
- **Type of application:** web sites hosting
- **Functional owners:** McCormick IT
- **Technical expert:** Senior IT Director McC Administration: XXXX, System Administrator: XXXX
- **Person responsible for recovery:** System Administrators: XXXX and XXXX
- **Is this a database application?** Yes
- **Does this application move data to or from core campus systems?** No
- **If so, what systems?** N/A
- **Departments impacted by failure of this application:** McCormick Administration, Graduate School admissions, biosciences purchasing
- **Recovery Time Objective:** when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? 2-3 weeks.
- **Backup frequency:** Daily (weekdays only)
- **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss. 4 weeks
- **Backup medium:** Tape
- **Backup auto or manual?** Automatic
- **Online storage at:** XXXX
- **Offsite storage at:** N/A
- **Installation disks and documentation located:** Systems are free, open source software available online worldwide and on media in XXXX of the XXXX building
- **Successful recovery ever conducted? When?** No
- **Comments:**
Recovery Details for Servers:
(Use the outline below for each identified application)

Server #1
- Name of server: XXXX
- Type: File sharing
- Server Software: XXXX
- Technical Expert: User Support Manager, XXXX
- Person responsible for recovery: User Support Manager, XXXX
- Applications impacted by failure of this server: User services – file sharing, local PC login
- Departments impacted by failure of this server: Any/all, depending on scope of outage
- Peak periods and/or Critical Timeframes: N/A
- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? ASAP, to facilitate user file sharing.
- Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss. 12 weeks
- Backup frequency: Daily
- Backup media: Tape
- Backup auto or manual: Automated backups
- Onsite storage at: XXXX
- Offsite storage at: XXXX
- Offsite storage frequency: Offsite backups are typically 6-10 weeks old
- Installation disks and documentation located: XXXX, XXXX
- Successful recovery been done – when? Yes, periodically as needed to recover data.
- Comments:

Server #2
- Name of server: XXXX
- Type: email
- Server Software: XXXX
- Technical Expert: User Support Manager, XXXX
- Person responsible for recovery: User Support Manager, XXXX
- Applications impacted by failure of this server: Email/communication
- Departments impacted by failure of this server: McCormick Administration
- Peak periods and/or Critical Timeframes: N/A
- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? ASAP, to facilitate communication.
• Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.  4 weeks
• Backup frequency: Daily (weekdays)
• Backup media: Tape
• Backup auto or manual: Automated backups
• Onsite storage at: XXXX
• Offsite storage at: N/A
• Offsite storage frequency: N/A
• Installation disks and documentation located: Online (XXXX)
• Successful recovery been done – when? Yes, periodically as needed to recover data.
• Comments:

Server #3
• Name of server: XXXX
• Type: XXXX server
• Server Software: XXXX, XXXX
• Technical Expert: System Administrator: XXXX
• Person responsible for recovery: System Administrators: XXXX and XXXX
• Applications impacted by failure of this server: Most network activity.
• Departments impacted by failure of this server: Entire McCormick school
• Peak periods and/or Critical Timeframes: N/A
• Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? ASAP
• Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.  12 weeks
• Backup frequency: Daily
• Backup media: Tape
• Backup auto or manual: Automated backups
• Onsite storage at: XXXX
• Offsite storage at: XXXX
• Offsite storage frequency: Offsite backups are typically 6-10 weeks old
• Installation disks and documentation located: XXXX and XXXX
• Successful recovery been done – when? Yes, periodically as needed to recover data.
• Comments:

Server #4
• Name of server: XXXX
- Type: XXXX server
- Server Software: XXXX, XXXX
- Technical Expert: System Administrator: XXXX
- Person responsible for recovery: System Administrators: XXXX and XXXX
- Applications impacted by failure of this server: Web pages, Gats application system,
- Departments impacted by failure of this server: Entire McCormick school, Graduate admissions
- Peak periods and/or Critical Timeframes: N/A
- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? 2-3 weeks
- Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss. 12 weeks
- Backup frequency: Daily
- Backup media: Tape
- Backup auto or manual: Automated backups
- Onsite storage at: XXXX
- Offsite storage at: XXXX
- Offsite storage frequency: Offsite backups are typically 6-10 weeks old
- Installation disks and documentation located: XXXX and XXXX
- Successful recovery been done – when? Yes, periodically as needed to recover data.
- Comments:

Server #5
- Name of server: XXXX
- Type: XXXX server
- Server Software: XXXX
- Technical Expert: System Administrator: XXXX
- Person responsible for recovery: System Administrators: XXXX and XXXX
- Applications impacted by failure of this server: Web pages, Gats application system,
- Departments impacted by failure of this server: Entire McCormick school, Graduate admissions
- Peak periods and/or Critical Timeframes: N/A
- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? 2-3 weeks
- Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss. 12 weeks
- Backup frequency: Daily
- Backup media: Tape
- Backup auto or manual: Automated backups
- Onsite storage at: XXXX
- Offsite storage at: XXXX
- Offsite storage frequency: Offsite backups are typically 6-10 weeks old
- Installation disks and documentation located: XXXX and XXXX
- Successful recovery been done – when? Yes, periodically as needed to recover data.
- Comments

**Server #6**

- Name of server: XXXX
- Type: XXXX server
- Server Software: XXXX, XXXX
- Technical Expert: System Administrator: XXXX
- Person responsible for recovery: System Administrators: XXXX and XXXX
- Applications impacted by failure of this server: biosciences po systems
- Departments impacted by failure of this server: Pathology, physiology, chemistry life sciences
- Peak periods and/or Critical Timeframes: N/A
- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? 2-3 weeks
- Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss. 4 weeks
- Backup frequency: Daily
- Backup media: disk
- Backup auto or manual: Automated backups
- Onsite storage at:
- Offsite storage at:
- Offsite storage frequency:
- Installation disks and documentation located: XXXX and XXXX
- Successful recovery been done – when? no
- Comments

**Backup of Workstations:**

- Computer users (faculty/staff/students) in this unit backup workstations as follows:

<table>
<thead>
<tr>
<th>Backup Method</th>
<th>Percent of users who use this method</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>User files are stored on departmental server</td>
<td>100%</td>
<td>Desktop users backed up through local service, laptop</td>
</tr>
<tr>
<td>Users backed up through contracted service</td>
<td>Backup by NUIT</td>
<td>Local backup of workstation by user (automatic)</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>----------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

- **Workstation support is performed by:** (comments) McCormick IT (User Support Manager, XXXX User Support/Sys Specialist Sr, XXXX, User Support Specialist, XXXX, PC Systems Specialist, XXXX)

**IT Strategies:**

- **Purchasing: How to purchase new hardware quickly:** Utilize XXXX with XXXX for anything under limit needed next business day. Utilize XXXX for any other items.

- **Disks and documentation: Location of software and related documentation:** Most software is open source documentation and media can be found XXXX. Some is also located in XXXX. Lab documentation and software in XXXX (XXXX). Desktop software and documentation in XXXX, XXXX, XXXX. Server software and documentation in XXXX.

- **Special environmental needs for IT equipment:** Cooling for server racks.

- **Technical staff: Will your technical support staff be adequate during an emergency?** Varies depending on nature of the emergency. Staff is sufficient for contained emergencies (e.g., loss of server(s), individual workstations). Additional staffing would be required for large scale emergencies (e.g., total loss of facility, loss of all servers, loss of significant quantity of workstations).

- **Obstacles: Potential obstacles that could hinder quick re-establishment of critical IT services:** Dependence on NUIT provided services (network cabling/port installation, activation, configuration) and technologies (VPN, wireless, telephony, NetID authentication)

- **Work from home: IT strategies that will enable & support users to work from home:** Remote desktop, remote access to file server through VPN

- **Systems that lack workarounds: Systems or applications that could NOT be replaced temporarily by ‘workarounds’:** backups/data recovery (access to backed up data); there are workarounds possible for anything else – sharing new data, authenticating, etc, but access to backups requires the backup server.

**B UNIT PREPAREDNESS**

Unit plan to promote preparedness:

**Plan Distribution Policy:**

The plan will be housed on the XXXX. Additionally, the core and support teams will have copies retained in their individual electronic and paper files.
Unit Communication Procedure:
- **Staff Phone Tree** Appendix B

Disaster Recovery/Business Continuity Assessment Teams:

- **Core Disaster Recovery/Business Continuity Team:**
  - XXXX
  - XXXX
  - XXXX
  - XXXX
  - Roles and Responsibilities – Oversee the overall disaster recovery and business continuity efforts

- **Damage Assessment Team:**
  - XXXX
  - XXXX and XXXX
  - XXXX
  - XXXX
  - XXXX
  - Roles and Responsibilities – Walkthrough the area affected area and determine the extent of damage and salvageable items

- **Continuity/Resumption Team:**
  - XXXX
  - XXXX and XXXX
  - XXXX
  - XXXX
  - XXXX
  - XXXX
  - XXXX
  - XXXX
  - Roles and Responsibilities – Carry out alternate business continuity activities during outage

- **Other Teams:** (ie Emergency Response Team, Recovery Team, Restoration Team, etc)
Action Items:
- Do the previous sections of this plan (3A Critical Functions and 3B IT) contain action items related to the preparedness of individual staff/faculty/students?

- Comments:

- Are there any other action items you would like to add?

C  KEY PEOPLE & RESOURCES

Communication Resources:

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Emergency home contact list – NU UP/OEM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Individual department/program/office lists maintained in respective area</td>
</tr>
<tr>
<td>Question:</td>
<td>Who keeps printed copies?</td>
</tr>
<tr>
<td>Who:</td>
<td>McC Admin, Dept. Chairs and Business Administrators</td>
</tr>
<tr>
<td>Location:</td>
<td>Retained in their individual electronic and paper files</td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Staff emergency contact list</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Emergency home contact list (faculty) – NU UP/OEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who keeps printed copies?</td>
</tr>
<tr>
<td>Who:</td>
<td>Dept. Chairs and Business Administrators</td>
</tr>
<tr>
<td>Location:</td>
<td>Retained in their individual electronic and paper files</td>
</tr>
<tr>
<td>Comment:</td>
<td>Issue regarding confidentiality of personal information</td>
</tr>
<tr>
<td>Description:</td>
<td>Faculty list</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Emergency home contact list – Use NU OEM system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who maintains it?</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Who:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Where is it maintained and stored? In XXXX</td>
</tr>
<tr>
<td>Comment:</td>
<td>Issue regarding confidentiality of personal information being available on printed or other widely viewed documents.</td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Important email lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who holds these?</td>
</tr>
<tr>
<td>Who:</td>
<td>McC IT</td>
</tr>
<tr>
<td>Location:</td>
<td>Where is it maintained and stored? XXXX</td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>List of students (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who holds these?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td>XXXX, XXXX, XXXX</td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>System accounts shared by several people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>What are these and who knows them?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td>List all shared passwords</td>
</tr>
<tr>
<td>Resource:</td>
<td>Accounts used by employees</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>Question:</td>
<td>What are these and who knows them in case staff is not available?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Recorded messages on phone lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who has access and knowledge to record/change these?</td>
</tr>
<tr>
<td>Who:</td>
<td>NUIT</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td>How many lines?</td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Message posted on departmental web site (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who has access and skills to post these?</td>
</tr>
<tr>
<td>Who:</td>
<td>MCC Marketing and McC IT</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Text-messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Which staff have text messaging on phones?</td>
</tr>
<tr>
<td>Who:</td>
<td>NUIT</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
<tr>
<td>Resource:</td>
<td>Other communications tools</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Question:</td>
<td>What is available?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

### Working from Home:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Home computer adequate?</th>
<th>Broadband Connection?</th>
<th>Currently uses campus file servers from home?</th>
<th>Currently uses campus enterprise applications from home?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Critical or Key Staff:

(Copy and paste additional table for each key staff member)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Title or Function:</td>
<td></td>
</tr>
<tr>
<td>Special Skill:</td>
<td></td>
</tr>
<tr>
<td>How far from campus:</td>
<td></td>
</tr>
<tr>
<td>Car:</td>
<td></td>
</tr>
<tr>
<td>License Plate:</td>
<td></td>
</tr>
<tr>
<td>Email (NU):</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>---</td>
</tr>
<tr>
<td>Email (Alternate):</td>
<td></td>
</tr>
<tr>
<td>Work Phone:</td>
<td></td>
</tr>
<tr>
<td>Cell Phone:</td>
<td></td>
</tr>
<tr>
<td>Home Phone:</td>
<td></td>
</tr>
</tbody>
</table>

**Key Staff of Other Campus Units:**
(copy and paste additional table for each staff member or unit)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Department:</td>
<td></td>
</tr>
<tr>
<td>Work Address:</td>
<td></td>
</tr>
<tr>
<td>Work Phone:</td>
<td></td>
</tr>
<tr>
<td>Work Cell:</td>
<td></td>
</tr>
<tr>
<td>Cell Phone:</td>
<td></td>
</tr>
<tr>
<td>Home Phone:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email (NU):</td>
<td></td>
</tr>
<tr>
<td>Email (Alternate):</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
</tbody>
</table>

**Key Off-Campus Partners:**
(copy and paste additional table for each partner)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td></td>
</tr>
<tr>
<td>Work Address:</td>
<td></td>
</tr>
<tr>
<td>Work Cell Phone:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
</tbody>
</table>
### Key Vendors:
(copy and paste additional table for each vendor)

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Work Address</th>
<th>Work Cell</th>
<th>Fax</th>
<th>Email</th>
<th>Comment</th>
<th>Alternate Vendor(s)</th>
</tr>
</thead>
</table>

### Key Others: donors, stakeholders, clients, customers
(copy and paste additional table for each contact)

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Address</th>
<th>Cell</th>
<th>Fax</th>
<th>Email</th>
<th>Comment</th>
<th>Affiliation</th>
</tr>
</thead>
</table>

### Office & IT Equipment:

In order to reestablish ______ McCormick School to a functioning level, we would need at a minimum:

- 25_ computers with appropriate software
- 25_ monitors
- 40_ workstations (desks, chairs, and other desk paraphernalia and supplies)
20 tables
10 filing cabinets
25 telephones
25 network connections
5 image scanner
10 office printers
5 combination photocopier and fax machine

(Other please specify) ______________________________________

Operating Requirements:

- **Layout needed for working**
McCormick will require a work area within the NU Emergency Center operations. Ideally, individual offices or cubicles to house the core and support teams listed above. All telephones and work areas need to be in the same general area to support the sharing of information, paper files, printers, fax machines and other equipment and supplies.

- **Desks and table space Details**
Each person should have a desk and for every 4 people, we will need a table. Each person will need a computer, internet connection. For every 8 people, we need a copier and for every 10 a fax.

- **Telephones Details**
All telephones and work areas need to be in the same general area to support the sharing of information, paper files, printers, fax machines and other equipment and supplies. All telephone numbers should remain the same.

XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX

XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX

XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
XXXX   XXXX
• Computer Configuration Requirements

It should run the most current version of the Windows operating system and Office software. It should be Internet-connected and capable of using Outlook, Thunderbird and/or Eudora for email and Internet Explorer and/or Firefox for web browsing.

Other Equipment:
• Replacement specialized research equipment for faculty labs

Supplies:
• Identify inventory strategy and what types of office supplies will be required for your unit to operate

We have no supplies or forms that cannot be acquired elsewhere.

• Do you have a 2 week inventory?
  ○ N/A

• What is your plan after a disruption?
  ○ To order replacement supplies ASAP after a disruption w/P card

Facilities:
• We need office space to continue our Administration responsibilities
• Critical need for replacement space to continue research as best possible – perhaps use of XXXX space?

D TESTING
(Insert proposed testing schedule)
PART 1  GENERAL INFORMATION

PART 2  ACTION ITEMS TO INCREASE OUR READINESS

PART 3  INFORMATION & STRATEGIES FOR OPERATING DURING CRISIS

A  CRITICAL FUNCTIONS

B  INFORMATION TECHNOLOGY
   Recovery Details for Applications:
   Recovery Details for Servers:
   Backup of Workstations:
   IT Strategies:

C  UNIT PREPAREDNESS
   Plan Distribution Policy:
   Unit Communication Procedure:
   Disaster Recovery/Business Continuity Assessment Teams:
   Action Items:

D  KEY PEOPLE & RESOURCES
   Communication Resources:
   Working from Home:
   Critical or Key Staff:
   Key Staff of Other Campus Units:
   Key Off-Campus Partners:
   Key Vendors:
   Key Others: donors, stakeholders, clients, customers
   Office & IT Equipment:
   Operating Requirements:
   Other Equipment:
   Supplies:
   Facilities:

E  TESTING
Part 1 GENERAL INFORMATION

- This business continuity plan is for:

  University Services, the auxiliary arm of the University, provides support services in mail, purchasing, copier management, trademark licensing, motor pool, printing, duplicating, travel, lab gases, laboratory supplies and laundry, vending, calibration services, shuttles, I.D. production, computer & electronic equipment recycling, parking administration and internal moves for the Chicago Campus, and shipping and receiving.

This unit’s “parent” department is:

Business and Finance (XXXX, Sr VP)

- Number of personnel

<table>
<thead>
<tr>
<th>Category</th>
<th>Headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty &amp; Other Appointees</td>
<td>0</td>
</tr>
<tr>
<td>Staff (full-time)</td>
<td>58</td>
</tr>
<tr>
<td>Staff (part-time)</td>
<td>0</td>
</tr>
<tr>
<td>Student Staff</td>
<td>1</td>
</tr>
<tr>
<td>Other: Contractors</td>
<td>55 (includes 45 for the Chicago parking garages)</td>
</tr>
</tbody>
</table>

- Unit Organizational Chart:

  See attached.

- Location (s):

  In Evanston, University Services has staff on the 1st and 2nd floors of XXXXX, XXXXX, XXXXX Mail room, XXXXX mail room, XXXXX dock area and at XXXXX Ave. It also has contractors working in the lab supply stockroom in XXXXX and in the bank branch in XXXXX. In Chicago staff are in XXXXX (X and X floors), on the docks in the XXXXX building, as well as in the basement of XXXXX. It also has contractors working in the basement of the XXXXX and XXXXXs, the three parking garages, the docks in the XXXXX and XXXXX buildings and the drivers of the shuttle system.

- Any rented Space? Y/N – Locations

  None, other than the space we rent from XXXXX for the bank branch.

- Critical Functions performed by this unit. (Functions essential to the service activities during a major crisis):

  - Mail is a vital communication tool of the University. It is imperative that service be restored as quickly as possible. This becomes more important if there is a long lasting electrical failure. This would limit or totally eliminate electronic communication and a loss of phone/fax service would mean that mail could be the only communication means left. This would be true for internal communications as well as inbound and outbound communications with the outside world.
Lab Services is vital to the research community. Its primary responsibility is to order and distribute laboratory gases, liquid nitrogen, gas tank regulators and valves, and dry ice to both Northwestern campuses (Chicago and Evanston).

In the event the WildCARD Program is unable to create new ID Cards due to system failures or loss from unforeseen circumstances, it would impact all new students, faculty, staff and all other new university affiliates. A system failure or loss would also affect any existing card holder who would need to obtain a replacement ID card.

Potential affected services:
- Meal Plans and Munch Money Program – Food Services
- Banking ATM/Debit card feature through US Bank
- Building and door access
- Library access and borrowing privileges
- Copier and Print Lab services
- Payroll Time Entry System
- Gymnasium and recreational facility access (including Intramural Card program)
- Health services access and privileges
- Athletic events access
- Parking lot access (Chicago Campus)
- Shuttle service access
- WildCARD advantage discounts
- Dormitory laundry services
- Concert and theatre event purchase privileges
- Passport Photos

### Extraordinary functions (special functions that this unit may need to perform during a time of crisis):

- University Services provides logistical/resource support following an emergency as well as emergency transportation support to departments and schools.

**Is there a specific plan for this extraordinary function?**

Yes, it is part of the University’s Emergency Response Management Plan

### Functions judged to be non-critical:

- Our Print Services vendor keeps a supply of business card and letterhead masters off-site so if they experience a service failure at their facility, they could still have these items printed at an alternate vendor with slight interruption. Based on prior volumes, the amount of masters kept off-site would get us through a 2-3 week order period. A failure on-campus would not affect this vendor.

- Because of the nature of our Duplicating business, a service failure at any facility would not have a drastic effect on business at NU. Jobs can be routed electronically or manually between campuses or to one of the off-site facilities with little effect on turnaround time. Most departments have walk up copiers so that, in an emergency, copies can be made on those machines. There are also quick copy businesses located near campus that could be used such as Copy Cat and Quartet in Evanston.

- A failure or loss at the Motor Pool office would have minimal affect as cars can continue to be rented from an outside agency via phone, fax or in person. If a failure affects permanently assigned vehicles, the departmental needs would have to be assessed, and if determined that the vehicle is critical for the operation of the department through the
emergency, those vehicles would be replaced using a commercial agency. If a Motor Pool vehicle is in need of repair during the emergency, we have a tow truck to take it to one of many repair facilities we use, or we could have it commercially towed. University Police may want to keep several portable dash mounted flashing lights in stock should their squad fleet be affected by the emergency or they find that they need extra vehicles either from the Motor Pool fleet or from a rental agency.

- The vendors in the Copier Management Program provide service in addition to the equipment. Certain emergencies on campus may render the equipment either temporarily or permanently disabled. If temporary, the vendors are responsible for getting the copiers up as soon as possible or providing a replacement. If permanently disabled, replacements will be found as soon as possible. If a campus wide emergency, like a power outage, renders all copiers useless, copies can be made using XXXXX Office’s offsite locations or any one of its near campus competitors.

- The University Services Trademark Licensing Office could operate daily without fear of loss. To access artwork from a licensee, Collegiate Licensing Company (CLC) notifies the Trademark Licensing Manager via e-mail that artwork is available for approval which is done via the web.

XXXXX, an XXXXX Company, utilizes XXXXX for offsite backup of data. This process synchronizes daily to mirror all our data offsite in case of disaster. XXXXX converts the data to tape and stores it in a secure location for 7 years. XXXXX also utilizes onsite tape backup for access to quick restores. These tapes are stored in a fireproof safe at XXXXX’s office in Atlanta.

All its data and application servers are stored as entire snapshots of its systems environment. This allows XXXXX to re-provision an entire server (like MyXXXXX) within an hour to minimize downtime. It has various redundant hardware in place to prevent a single point of failure. For example, if a power supply or hard drive fails, the system will continue to run and XXXXX can replace the failed piece of equipment without downtime.

- If the Business Office was unable to function, and the chargeback process was impeded, then the 12,000 or so monthly transactions would simply not post to the departments’ accounts in a timely manner. If the USAR system (outside invoice billing) was not available, a manual ledger would be used, starting with the next sequential invoice number. Once USAR was available, it would be updated with the missed activity.

- The Purchasing Resource Services (PRS) staff does not believe any of PRS’s responsibilities meet the definition of a critical function during an emergency. However, while any of these services may not be critical by themselves, PRS is and should be a Critical Resource to all departments and schools should an emergency occur. Arrangements should be made as part of the University’s overall Business Continuity Plan, for PRS to be able to provide purchasing support services to departments and schools on a limited scale in the short term. PRS will include language in contracts and agreements regarding preferred customer status during emergencies and have on-file each contractor’s business continuity plan. PRS is part of NU’s Emergency Response Management Plan.

- Transportation Services is relied on by many faculty, staff and students daily. Since it is 100% outsourced to a shuttle bus company, a failure at NU would not affect them. If
they had emergencies, we could charter replacements with a number of charter bus companies that we do business with today. There are also many public transportation alternatives with Metra, CTA and Pace. (also see motor pool above)

o Chicago Parking is also relied on by many faculty, staff, students and visitors. Parking operations are outsourced to Standard Parking for public parkers, however, NU parking permits and cards are issued by our office. If an emergency would exist, where the NU parking office is not available, our NU permits could be distributed in the leased space at the parking facilities.

o Managing the membership database of the Chicago fitness program can be done from any location with access to files residing on our servers which are being relocated to the central data center and supported by IT beginning in January 2010.

o Our lab services department could continue to take web and email orders for gases and dry ice if a problem surfaced that prevented them from accessing their correspondence and files from their computers. Lab Services has a web application provided and supported by an outside company. If an emergency would exist, where the NU lab services area is not available, laboratory gases could either be distributed from the other dock on the Chicago Campus or arrangements could be made with XXXXX for direct delivery for a short term.

o Internal Moves in Chicago could be 100% outsourced if we couldn’t provide the service due to an emergency. Currently, the XXXXX dock staff performs a small percentage of the internal move jobs.

o The Equipment Maintenance program would continue without interruption as long as email, campus mail and departments are able to call vendors.

o The Computer & Electronics Recycling program would continue without interruption as long as email or phones were available. Even if it had to temporarily suspend operations, this is not a critical function in the short term.

o Travel Services has negotiated contracts with four travel agencies which accept reservations and charges them to an NU chart string. If a problem surfaced that limited access to them, a traveler could go on any number of public sites and pay with a personal credit card and get reimbursed at a later date. The only drawback is that other agencies are not given access to our XXXXX contract which may provide discounts on select fares. Same for our business extra points with XXXXX.

o Vending services are outsourced and would continue as long as the machines are accessible by the outside contractor. All machines have 800 numbers to contact the vendor for any issues in service.

o Gas Card Program has two fuel companies XXXXX and XXXXX that departments use for University vehicles. If a department has lost their gas card the department may have a P-Card available for the purchase of gas or a replacement card could be ordered.

o Lab laundry services are outsourced and would continue as long as the vendor isn’t negatively affected by the emergency.

- Contact person(s) for this business continuity plan:
  
  XXXXX, Director  
  847-XXX-XXXX  
  XXXX@northwestern.edu
• Please name three (3) continuity coordinators for your unit: (Note: These coordinators will be responsible to coordinate with OEM, NUIT, and business continuity planners on new programs, policies, and developments)

1. XXXXX, Director of Purchasing
2. XXXXX, Sr Mgr
3. XXXXX, Mgr
**Part 2 ACTION ITEMS TO INCREASE OUR READINESS**

“An ounce of prevention is worth a pound of cure.”

The most effective way to handle a major disaster is to act ahead of time to reduce the potential impacts. Our business continuity plan identifies a number of such mitigation actions.

We call them **ACTION ITEMS**.

Some of these Action Items may be doable now. Others may require additional resources. Still others may be within the province of another unit, or of the campus as a whole. Taken together, these Action Items are the most important outcome of business continuity planning – a “To Do List” for disaster readiness.

The list of action items may not fully apply to your unit. Please address action items which apply and use the table to identify action items and process for addressing open items.

**Action Item**

1) **Develop plan for alternate space**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>N/A—XXXXX restated the assumption that space, basic utilities and IT support would be available, although we do discuss this in Part 3 for our critical functions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

2) **Request faculty to develop strategy for alternate channel delivery of courses (if applicable)**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

3) **Develop strategy for secure storage of non-electronic materials**
<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>All functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

All confidential materials are either stored in a locked filing cabinet or behind a locked office door, or in a safe.

4) **Do periodic trial recoveries of servers/applications**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>All functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

Servers – all in domain XXXXX.northwestern.edu

Physical servers going away shortly – backed up every night to tape, Windows Server 2003, XXXXX, our outside computer consultant is the responsible person, impact of losing these servers is University Services unable to function, Peak times 8AM-6PM M-F, recovery time objective – within one day after hardware replacement, backups can go back one or two days at most (would be losing info each day)

XXXXXX – secondary domain controller
XXXXXX – primary domain controller, file server

Virtual Servers in Data Center – all Windows Server 2003 R2
These are all maintained by the DataCenter – they take care of backups, etc (no need to contact them – just specify they are part of the VMs from the data center), impact of losing
these servers is University Services unable to function, Peak times 8AM-6PM M-F, recovery time objective – hopefully within minutes as it is just a file restore, backups can go back one or two days at most (would be losing info each day)

XXXXX – new CA Pest Patrol server
XXXXX – XXXXX update server
XXXXX – domain controller
XXXXX – domain controller
XXXXX – bobcat file appliance – new file shares

5) **Have department IT manager discuss work-from-home issues**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Currently, the Director of University Services, the Director of Purchasing, the Business Manager, the eprocurement administrator and a procurement administrator have remote access to network files. If others were give remote access, either 1) laptops configured for remote access would have to be provided when desktops are replaced; or 2) home computers would have to be supported to ensure any windows based computers are up to date with all Windows patches and up to date with either McAfee or Symantec virus software.</td>
</tr>
</tbody>
</table>

6) **Make mutual arrangements with other units, schools, research centers to borrow technical staff if needed during a recovery**

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7) **Cross train 2 staff members to process key functions**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Estimated cost:</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is cost one-time or annual:</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within whose scope:</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Status:</td>
<td>TBD</td>
</tr>
</tbody>
</table>

8) **List all critical functions and develop plan to cross train**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Estimated cost:</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is cost one-time or annual:</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within whose scope:</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Status:</td>
<td>TBD</td>
</tr>
</tbody>
</table>

9) **Cross train 2 staff members to do departmental purchasing**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Estimated cost:</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is cost one-time or annual:</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within whose scope:</td>
<td>All</td>
</tr>
</tbody>
</table>
Since Purchasing Resource Services is part of University Services, we already meet this goal. The Director of Purchasing has access to all purchasing mechanisms available to NU.

10) Investigate if current purchasing procedures have restrictions/limits and list any limits

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>N/A—see question 9</td>
</tr>
</tbody>
</table>

11) Obtain 2 alternative purchasing mechanisms

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>N/A see question 9</td>
</tr>
</tbody>
</table>

12) Ensure your network allows authorized users to connect remotely

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>We already allow remote users via the NU SSL VPN facility. Note that this only allows remote access. The</td>
</tr>
</tbody>
</table>
13) Ensure key network users have been trained and remote hardware has been configured for remote access

| Supports which critical function: |  
|----------------------------------|---|
| Estimated cost:                  |  
| Is cost one-time or annual:      |  
| Within whose scope:              |  
| Status:                          | Currently, the Director of University Services, the Director of Purchasing, the Business Manager, the eprocurement administrator and a procurement administrator have remote access to network files |

14) Develop a fund for emergencies

<table>
<thead>
<tr>
<th>Supports which critical function:</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated cost:</td>
<td></td>
</tr>
<tr>
<td>Is cost one-time or annual:</td>
<td></td>
</tr>
<tr>
<td>Within whose scope:</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Currently, University Services has a carry forward balance that can be used for emergencies incurred by any and all functions of University Services.</td>
</tr>
</tbody>
</table>
Part 3 INFORMATION & STRATEGIES FOR OPERATING DURING CRISIS

How to continue or resume our critical functions

A CRITICAL FUNCTIONS
(Use the outline below for each identified critical function as identified in Part 1)

Critical Function #1:

- **Description of this critical function: Mail Services**

  Currently, we have three mail centers on the Evanston Campus and one on the Chicago Campus. In Evanston, the main mail center is located on the first floor at XXXXX. This is where most incoming US Mail is received, sorted and distributed. Inbound US Mail addressed to student residences is delivered directly by the USPS. Buildings that have non-NU tenants and use the 60201 zip code, like XXXXX, XXXXX and XXXXX, also receive direct delivery from the USPS. XXXXX is also where all Evanston campus mail is brought for redistribution and where most outgoing mail for the Evanston campus is processed. We also process outgoing mail in the XXXXX located at XXXXX.

  The XXXXX site is staffed by 1 supervisor, 1 senior clerk, 3 clerks and 6 vehicular delivery workers, all NU employees. We maintain a mail center in the XXXXX building that is staffed by 1 senior clerk who is also an NU employee. This mail center services the XXXXX building and the XXXXX building. We also maintain a mail center in the XXXXX that is staffed by one Storekeeper 2, and two Storekeeper 1 positions that are also filled by NU employees. This center services the XXXXX, the XXXXX, the XXXXX building, the XXXXX and XXXXX. This center also acts as the main receiving area for the XXXXX.

  In Chicago, the mail center is in the XXXXX building. This is where all incoming US Mail is received, sorted and distributed (except for XXXXX); where all campus mail is brought for redistribution and where outgoing mail for the Chicago campus is processed. This site is outsourced to XXXXX and is staffed by one supervisor, one assistant supervisor and 4 clerks.

- **Section or unit that performs this function:** (if applicable)
  Mail Services is an area of University Services

- **Responsible person(s):**
  XXXXX, Sr Manager

- **Upstream dependencies** (units or systems whose failure-to-perform will affect us):
  To accurately sort and distribute mail, we need accurate department locations and employee listings for mail that does not contain a department address from HRIS. If departments are relocated to a temporary or permanent address due to an emergency, we need to get that information quickly. We rely on vehicles to deliver mail around campus, so the Motor Pool is important to keep the vehicles operating or provide a replacement. To process outbound mail, we need power for the mailing equipment, plus the support of XXXXX for service. We also use XXXXX and XXXXX extensively, so it will be important for them to be able to provide service, maybe even more so in an emergency. Of course we rely on the United States Postal Service to get the mail to us in the first place. Commercial Mailing Houses are used by various departments for larger mailings. We rely on XXXXX to provide the staff for the Chicago Mail Services.

- **Downstream dependencies** (units or systems that will be affected by our failure-to-perform):
Virtually all departments rely on the mail for communication needs.

- **Peak periods and/or Critical Timeframes**: Comment on peak periods and/or timeframes
  The critical times of the year for inbound mail is when applications are due for both undergraduate and graduate programs. Also, at calendar year-end for donations through the Development Office is important. Outbound mail is fairly consistent, but volume is heaviest in late summer prior to school year starting with mailings to incoming students. Another critical time is when the majority of applications first go out. See Critical Mail periods on calendar in Appendix

- **Space: How to perform this function if the usual space is not available:**
  A location may be needed for sorting inbound and campus mail and metering outbound mail. In Evanston, we have equipment at XXXXX and XXXXX for outbound mail and sorting, and at XXXXX for sorting only. If one if these locations is operable, we can use that location. If not, we would set up base on the Chicago Campus. If Chicago is affected, they would set up base in Evanston. We could also use the XXXXX office or XXXXX space on Cumberland near the airport or we could use XXXXX, a mailing house we use.

- **Equipment: How to perform this function if the usual equipment is not available:**
  If metering equipment is damaged, our first point of contact would be XXXXX to replace equipment. An option would be to send the mail that needs to be metered to XXXXX. If mail metering equipment is down either due to damage or lack of electricity, postage stamps could be obtained and provided to departments so they can apply postage before mail is given to Mail Services drivers or be affixed by the mail clerks. Large mailings could be sent to an off-site mailing house. Many departments have relationships with mail houses, or we could use XXXXX.

- **Staff: How to perform this function if faculty/staff absenteeism averages 50% for two months (e.g. during pandemic flu):**
  We could work extended hours to make up for the absent staff. We could also reduce the number of days we pick up and deliver mail from five (5) to three (3). Finally, we could hire temporary workers or use the XXXXX floater pool to perform some tasks.

- **Unique skills: Are there any personnel with unique skills, knowledge, or files whose absence would create difficulty?**
  Mail services staff are cross trained to use the XXXXX equipment, drive the routes, access XXXXX and XXXXX applications.

- **Working at home: Can this critical function be performed with some (or all) staff working from home? What equipment, supplies, and arrangements would be needed?**
  No

- **Data networks: How to perform this function if computer networks are not available:**
  For XXXXX, XXXXX and XXXXX, we would use their drop off centers off campus if available or deliver the outbound packages to the other campus for processing. For large mailings, we would use a mailing house like XXXXX.

- **Show Stoppers (resources that cannot be replaced, substituted, or done without):**

- **Campus closure: If campus closure were declared, would it be POSSIBLE to stop doing this critical function for a month or two?**
If faculty and staff were relocated and expected mail services, then no.

- **Risks generated by using alternate procedures:**
  Mail goes out late. Chargebacks are delayed. Control of mail may be delegated to others.

- **Policy exceptions needed for alternate procedures (& who can grant these exceptions):**

- **Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?**
  Within two weeks

- **Recovery Point Objective: how far back in time can transactions and data associated with this function be restored to avoid unacceptable loss.**
  Transactions and data associated with this function relate to chargebacks and proof of delivery of accountable mail that relate to services already performed. Recovery of this data does not seem crucial to restarting teaching and research.

- **Vital Records for restarting this function: Where are they located and how can copies be obtained?**
  Since records relate to services already performed, obtaining copies of these records is not essential in restarting after a disaster.

- **Consequences of failure to re-start this function**

<table>
<thead>
<tr>
<th>Possible Harmful Consequence</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruption of teaching</td>
<td>0-2 days</td>
<td>X</td>
</tr>
<tr>
<td>Disruption of research</td>
<td>1 wk</td>
<td>X</td>
</tr>
<tr>
<td>Loss of faculty</td>
<td>2 wks</td>
<td></td>
</tr>
<tr>
<td>Loss of staff</td>
<td>3 wks</td>
<td></td>
</tr>
<tr>
<td>Loss of students</td>
<td>4 wks</td>
<td></td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td>&gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Well-being of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td>x</td>
<td>Discounts maybe net/10</td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td>X</td>
<td>Assumes grant filing can’t be done electronically</td>
</tr>
</tbody>
</table>
Critical Function #2:

- **Description of this critical function:**
  The WildCARD Program produces and distributes the official Northwestern University all-purpose identification card issuing an estimated 14,000 ID cards annually unless a recarding is necessary.

  The WildCARD Program services and reconciles all campus add value stations known as Cash-to-Card machines, and all campus copier card reader equipment.

- **Section or unit that performs this function:** (if applicable)
  WildCARD Office

- **Responsible person(s):**
  XXXXXX, WildCARD Mgr (located in Evanston)
  Oversight in the Chicago WildCARD Office is provided by XXXXX, Mgr.

- **Upstream dependencies** (units or systems whose failure-to-perform will affect us):
  University network access, e-mail access, telephone service and electrical power resources.

**Systems:**
The WildCARD ID database is located on virtual servers residing at IT (XXXXX) on the Evanston campus. This exercise forced us to look beyond our current backup procedures and ask what would happen if none of the card production equipment and data servers from IT were available to use in either of the WildCARD offices. Two laptops act as temporary workstations that can communicate with ID card production equipment which, we could rent during an emergency. By installing authorized licensed ID card production software onto the laptops to communicate with the data servers and ID card printers, we can set up shop in a timely manner anywhere on campus via VPN network access on a temporary basis.

- HID/Fargo printers – HID/Fargo HDP5000 and Mag Encoder 89201 with lamination module
- Datacard cameras – Canon Power Shot G6 Digital Camera
- Datacard ID production software – ID Centre Silver Production Imaging Software
- FASIS (The Faculty and Staff Information System) - Utilized for status verification and access to employee information:
SES (Student Enterprise System) - Utilized for status verification and access to student information.

IT WildCARD System (WildCARD Administrator) – The system utilized by WildCARD staff to view record information uploaded from FASIS and SES

PeopleSoft – Accounting systems used for charges to tuition accounts, allocating commission revenue and depositing monies to the WildCARD agency account.

ITCS - Phones and network access used for the purpose of communication capabilities and retrieval of vital data information.

FAMIS (Facilities Management Information System) - Utilities used for the purpose of maintaining a fully functional operating environment.

- **Downstream dependencies** (units or systems that will be affected by our failure-to-perform):
  
  All schools and departments are supported by the WildCARD Program since all full-time employees; full-time/part-time students are issued an official Northwestern University identification card. A WildCARD is required to gain access to certain buildings, make use of specific services, and obtain an email account and to take advantage of numerous other card service features.

  **Potential affected services:**
  - Meal Plans & Munch Money Program – Food Services
  - Banking ATM/Debit card feature through US Bank
  - Building and door access – Facilities Management
  - Library access and borrowing privileges – University Library System
  - Copier and Print Lab services – University Library System
  - Payroll Time Entry System (Kronos) – Human Resources
  - Gymnasium and recreational facility access – University Athletics
  - Health services access and privileges
  - Athletic events access – University Athletics
  - Parking lot access – Chicago Parking Office
  - Shuttle service access – Transportation Services
  - WildCARD advantage discounts – University Services
  - Dormitory laundry services – University Housing
  - Concert and theatre event purchase privileges
  - Passport photo service – WildCARD Program
  - Intramural Card program – University Services

  Several specific university departments and contracted vendors depend on monthly WildCARD CashStripe reconciliation procedures to account for sales generated revenues. Note: the CashStripe program will be eliminated in large part by the end of FY12, then end completely by January 31, 2013.

  **University CashStripe supported departments:**
  - Main University Library
  - Galter Medical Library
  - Information Technologies Computer Labs
  - Kellogg School of Business
Law School Library
Schaffner Library
School of Continuing Studies (SCS)
Science Engineering Library
University Housing

CashStripe supported vendors:
Canteen – Compass Group
MacGray Laundry Services
Coca-Cola Enterprises, Inc. – (Coke)
Garrett-Evangelical Seminary Library

- **Peak periods and/or Critical Timeframes**: Comment on peak periods and/or timeframes

  Monthly sales collection reports – Priority High
  The monthly CashStripe sales reports are collected during the first few business days of every month. The sales reports are collected electronically and the reconciliation reports are produced manually in order to determine revenue amounts to distribute to the appropriate university departments and contracted vendors. The completed manual reconciliation reports are forwarded to University Services’ Business Office for processing in a journal voucher format in NU Financials. The vendor invoices are sent directly to Accounts Payable for payment processing.

  Monthly vendor commission revenue deposits – Priority High
  XXXXX now receives monthly commission revenue payments from XXXX and XXXX. The royalty revenue payment received from US Bank is paid annually by December 31st. All of the above mentioned payments would be deposited regardless if PeopleSoft were not available to reflect proper posting of received revenue funds.

  Wildcard ID production and distribution – Priority High
  This area of service provided might normally be considered medium priority throughout the year with the exception of the first academic quarter of every fiscal year.
  The first weeks of each academic quarter are critical dates for the WildCARD Program. The first academic quarter which, is mid August for the Chicago campus and mid September for the Evanston campus, are the busiest and most critical dates of the year due to the high volume of new students. Also, on the Chicago campus, the end of June through the end of July experience high volume, due to the start of many of the medical programs, ie. GME’s, Physician Asst.

  Sales Tax Returns—Priority Medium
  Separate sales tax returns are required for Chicago and Evanston passport photo sales. Both returns must be filed annually by the 20th of the following year, even if no sales were recorded. Filing is done online via the Illinois Dept of Revenue website. Late payment penalties are relatively nominal.

  Visitor copy card production and distribution – Priority Low
  Visitor copy cards are produced by the WildCARD Program and distributed via the university libraries and certain Cash-to-Card machines primarily located in high visitor traffic locations on campus. In the event that card production systems were not available, the WildCARD office maintains a one month surplus supply of pre-made copy cards.
**Space: How to perform this function if the usual space is not available:**

In the event that the WildCARD offices were shut down due to disaster, failure or loss, the disaster recovery plan procedure calls for the implementation of portable remote ID card production locations to be set up. The determined locations require network connection ports in order to link card production equipment to the secured WildCARD data servers.

Downloading data from Cash-to-Card and copier tower machines:
Depending on the circumstances due to disaster failure, loss, or shut down, reconciliation and cash counting procedures would take place at the Bursar office assisted by the Bursar staff. The monies could be reconciled with either the electronic data reports or the manual number counts if necessary.

**Equipment: How to perform this function if the usual equipment is not available:**

Laptop computers already pre-configured would serve as the remote card production workstations operating the Datacard ID Centre card production software. In the event that the original WildCARD office card production cameras and printer equipment were non-functional or non-accessible, all required digital cameras and printers would be rented from the local manufacturers authorized distributor (XXXXX).

Collection of monies deposited to Cash-to-Card and copier tower machines:
Depending on the circumstances due to disaster failure, loss, or shut down, the WildCARD Program staff members would need to collect and secure all funds from campus add-value stations known as Cash-to-Card machines and copier tower machines. Security escort services would be arranged and backup data collectors along with equipment access keys would be obtained from the manufacturers authorized distributor (XXXXX) if the original items were damaged or non-accessible.

**Staff: How to perform this function if faculty/staff absenteeism averages 50% for two months** (e.g. during pandemic flu):

We could work extended hours to make up for the absent staff. Plus the Evanston WildCARD staff and Chicago WildCARD staff are cross trained on many of the functions, so if one office was hit hard with illness, the other could reassign staff to that office.

**Unique skills: Are there any personnel with unique skills, knowledge, or files whose absence would create difficulty?**

XXXXX the WildCARD manager is primarily in complete charge of managing the custom ID card projects configuration access. This is to maintain security control and to avoid accidental changes to custom configuration settings. XXXXX has basic knowledge of these administrative functions however; he could make any required changes with the guidance of XXXXX. We are also training XXXXX as another back up administrator.

**Working at home: Can this critical function be performed with some (or all) staff working from home? What equipment, supplies, and arrangements would be needed?**

No

**Data networks: How to perform this function if computer networks are not available:**

Because the WildCARD production software is loaded on each card production workstation and laptops, it can operate independently without data network connection to produce new photos and
signatures, however, the workstations would not have access to the secured data residing on the virtual servers.

- **Show Stoppers (resources that cannot be replaced, substituted, or done without):**

  Indala, HID Corporate 1000 proximity or dual iClass ID cards stock with proper facility access code. Custom configured card production printers and printer supplies. Debitek Debutil CashStripe configuration and utility software programs and hand held readers. Currently, the only authorized dealer for the I-Class/Indala is XXXXX. Only authorized personal with the appropriate secure facility codes at the University to order I-Class/Indala card stock, are XXXXX, XXXXX from University Services and XXXXX, XXXXX and XXXXX, with FM.

- **Campus closure: If campus closure were declared, would it be POSSIBLE to stop doing this critical function for a month or two?**

  If no one was on campus and no one expected any of the services listed in the downstream dependencies section to be available, then yes, but how realistic is that? If one of the two campuses remained open, then we would be operating out of that WildCARD office.

- **Risks generated by using alternate procedures:**

  Alternate procedures could jeopardize Cash-to-Card collection and reconciliation deadlines required to be met under the university “Cash Handling Procedures”.

- **Policy exceptions needed for alternate procedures (& who can grant these exceptions):**

  In the event of power loss or campus closure, Cash-to-Card collection policy would need to be altered to secure funds residing in all campus add value stations. The Director of University Services would need to obtain permission for these exceptions from the Policy Owner or the Sr VP of Business and Finance.

- **Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?**

  Restart of the critical WildCARD functions must begin within ten days to meet the 30-day goal.

- **Recovery Point Objective: how far back in time can transactions and data associated with this function be restored to avoid unacceptable loss.**

  Data up to the end of the last functional business day can be retrieved and restored and would keep data loss to a minimum.

- **Vital Records for restarting this function: Where are they located and how can copies be obtained?**

  The WildCARD ID database is located on virtual servers residing at IT (XXXXX) on the Evanston campus. IT is responsible for backing up all WildCARD data on a daily basis making it easy to restore secured data remotely if required.

- **Consequences of failure to re-start this function**
<table>
<thead>
<tr>
<th>Possible Harmful Consequence</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-2 days</td>
<td>1 wk</td>
</tr>
<tr>
<td>Disruption of teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disruption of research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of faculty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Legal harm to university</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical Function #3:**

*Description of this critical function: Laboratory Services*

Lab Services is primarily responsible for ordering and distributing laboratory gasses, liquid nitrogen, gas tank regulators and valves, and dry ice to both Northwestern campuses (Chicago and Evanston). All orders are made through XXXXX, Lead Storekeeper for both campuses (ph: 312-XXX-XXXX). Northwestern’s main gas supplier is XXXXX (contact: XXXXX, ph. 847-XXX-XXXX) and the main dry ice supplier is XXXXX XXXXX (contact:XXXXX, ph. 630.XXX-XXXX). Orders can be made using an online ordering form, available on the Lab Services website, or by contacting XXXXX by phone or email.

To order tanks on:

- Evanston Campus (847) XXX-XXXX customer # XXXXX
- Chicago Campus (773) XXX-XXXX XXXXX Dock customer # XXXXX
To order dry ice for both campus':
Midwest Sales Person: XXXXX (312) XXX-XXXX
Evanston Campus customer # XXXXX
Chicago Campus customer # XXXXX

Lab Services also monitors the quantities and locations of all gas cylinders supplied through its program, moves all tanks so their location and quantity can be monitored, and occasionally audits the tanks of various departments. Lab Services also offers gas analysis and certification. This increases research safety by tracking the quantity and location of gasses, saves departments time and money by handling all vendor negotiations, paying consolidated invoices, and charging back costs to departments, and keeps labs safe by responding to departmental requests for replacement or removal when necessary.

The University Services administrative office is located at XXXXX, Room XXXXX, in Chicago. Lab gasses and dry ice are delivered to and stored at a number of different loading dock locations. two on the Chicago campus, and two on the Evanston campus: in Chicago, the XXXXX Loading Dock is located in the XXXXX Building at XXXXX within the XXXXX, and the XXXXX Loading Dock is located in the XXXXX Building at XXXXX. In Evanston, the XXXXX Loading Dock is located in the XXXXX Building at XXXXX, and the XXXXX Loading Dock is located in the XXXXX Building at XXXXX. Additionally, liquid nitrogen is delivered and pumped into a manifold system with nitrogen canisters at the XXXXX and XXXXX Loading Docks.

Lab Services then delivers the lab gasses and dry ice to various locations around both the Chicago and Evanston campuses. In Chicago, these locations are: XXXXX, XXXXX, XXXXX, XXXXX, XXXXX, and XXXXX Building, with materials stored at XXXXX and the XXXXX Building loading docks. In Evanston, delivery locations are: XXXXX, XXXXX, XXXXX, XXXXX, XXXXX, XXXXX, XXXXX, XXXXX, and XXXXX, with materials stored at XXXXX and XXXXX.

- **Section or unit that performs this function:** (if applicable)
  Laboratory Services is an area of University Services

- **Responsible person(s):**
  XXXXX, Manager
  XXXXX, Lead Storekeeper (responsible for both campuses, located in Chicago)
  XXXXX, Storekeeper 1 (located in Evanston)

- **Upstream dependencies** (units or systems whose failure-to-perform will affect us):
  To successfully order and deliver supplies, we depend on delivery from our various vendors, specifically XXXXX and XXXXX Dry Ice. In order to safely transport materials physically, we need cylinder dollies. We also rely on certain computer programs such as our Microsoft Access databases to keep track of orders and tank inventory, as well as our chartstring checker program. In order to ensure orders are made and received, we rely on our two online ordering systems (XXXXX for gases records, and XXXXX for dry ice records), and email and voicemail systems. The online ordering system is hosted on an outside server: www.XXXXX and XXXXX, on which we depend for the ordering system to work. From these outside servers, we can also access inventory, so it’s important in both respects. The information collected on the online ordering system is transferred to our Lab Service database on a daily basis. The Lab Service data base information is backed up daily.

- **Downstream dependencies** (units or systems that will be affected by our failure-to-perform):
  Any department/laboratory requiring lab gases or dry ice will be affected. Also, the bi-weekly creation of the PeopleSoft files that bill our customers would be affected, as would the daily gas tank operations at the XXXXX, XXXXX, XXXXX, and XXXXX receiving docks.
• **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes

Labs constantly need gas tanks and dry ice for research needs, often in the same day. Mondays and Fridays are particularly critical days of the week.

• **Space: How to perform this function if the usual space is not available:**

A location would be needed for receiving and storing the gas tanks. Currently, the tanks are stored on the XXXXXX, XXXXXX, XXXXXX, and XXXXXX receiving docks. If one of these spaces is unavailable, one of the others could potentially be used as a temporary substitute, but at the moment, there are no back-up spaces to these four locations.

Any storage area should have separate areas for oxidizers, combustible materials, and flammable gases. These areas should be at least 20 feet apart, and/or separated by a noncombustible wall of fire-resistant construction. Full and empty cylinders should be kept separate, and cylinders should be stored in the upright position and secured. The storage area should be dry, cool, well-ventilated, and, if possible, fire-resistant. Any storage space should be monitored, with restricted access, removed from high-traffic areas and emergency exits, and suitable warnings (ie: “No Smoking”) should be posted.

XXXXX maintains an “unsafe delivery site” policy with which any delivery site space must comply to ensure prompt delivery. Such hazards as would constitute an unsafe delivery site include: obstructions, unstable structures, unsafe electrical outlets/wires, inadequate security, guard dogs, stairways or other inappropriate means of ingress/egress, improper pressure reduction or other user-supplied equipment, aisle/path/driveways too narrow, improper surfaces for movement of cylinders, grease/oil, leaking pipes/regulators/other equipment, requiring lifting beyond one person’s capability, and improper ventilation. These hazardous conditions should be avoided.

Any space used for storing and handling hazardous materials must comply with OSHA guidelines 1910.1450 (available on-line at [http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10106](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10106)) including, but not limited to: requiring the limitation of employee exposure to that amount permitted by OSHA; prohibiting eye and skin contact where specified by OSHA health standard; ensuring that labels on incoming hazardous material containers are not removed or defaced and that material safety data sheets of incoming shipments are readily accessible to employees; establishing and maintaining for each employee accurate records of any measurements taken to monitor employee exposures; informing employees of the location and availability of the employer’s Chemical Hygiene Plan, the permissible exposure limits for regulated substances, signs and symptoms associated with exposures to hazardous chemicals, and the location and availability of known reference materials on hazards, safe handling, storage, and disposal of hazardous chemicals; and providing employees with information and training to ensure they are apprised of the hazards of chemicals present. Currently Lab Services provides an annual Lab Gas handling Safety Training, provided by XXXXX. Each Lab Service employee, including the XXXXXX Receiving Dock employees participate. Each employee is also provided with a detailed lab services procedure manual and a copy of the Employee Safety Handbook. Also, throughout the year safety self assessments, and audits of the lab service spaces are conducted by Risk Management and the Office of Research Safety.

Permissible exposure limits for compressed gas are as follows:

(i) A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 deg. F (21.1 deg. C); or
(ii) A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 deg. F (54.4 deg C) regardless of the pressure at 70 deg. F (21.1 deg. C); or
(iii) A liquid having a vapor pressure exceeding 40 psi at 100 deg. F (37.8 C) as determined by ASTM D-323-72.

• **Equipment: How to perform this function if the usual equipment is not available:**

Certain equipment is necessary to perform this function: specialty gas tank/liquid nitrogen dollies, dry ice freezers, hazmat labels and safety equipment, and chains, etc. to keep canisters secure.
Dollies: It is impossible to move tanks without gas tank and liquid nitrogen dollies—the tanks are too heavy to move by themselves. Cylinders should never be dropped, dragged, or slid in an effort to move them, and they should not be subjected to abnormal mechanical shocks which may cause them damage. The Northwestern Office for Research Safety requires that cylinders be transported using a wheeled cylinder cart with the capped cylinder strapped to the cart.

Freezers: Dry ice storage requires freezers. Dry ice should be stored in a thermally insulated container, in an area with proper ventilation.

Labels/Safety equipment: Certain hazardous materials labels are required to notify handlers of hazardous material. The NFPA label, for example, required by many institutions and industries, is comprised of blue, red, yellow, and white diamonds indicating toxicity, flammability, reactivity, and radioactivity, respectively. Such hazardous material labels are required by OSHA regulations to clearly mark all hazardous materials, and are therefore necessary equipment. Similarly, various kinds of safety equipment is necessary to ensure employee safety when dealing with hazardous materials such as lab gases and dry ice. In the event that the usual equipment is unavailable, backups can be used instead—such equipment includes gloves, eye goggles/protection, self-contained breathing apparatuses, fire extinguishers, chalk (to mark empty cylinders), etc. As per the Northwestern Office for Research Safety, Chicago code requires that cylinders be chained to the wall, and Evanston code requires that cylinders be secured by bench straps, floor stands, or chains. Therefore, in either case chains and/or straps/stands are necessary to secure cylinders.

- **Staff:** How to perform this function if faculty/staff absenteeism averages 50% for two months (e.g. during pandemic flu):
  
  Other staff members, such as the XXXXX Dock workers, who have been cross-trained with Lab Services area, would take over required tasks, to ensure orders were still met and deliveries were received.

  Another option may be that arrangements could be made with XXXXX, to deliver gas cylinders directly, however knowledge or campus may impact timeliness of delivery.

- **Unique skills:** Are there any personnel with unique skills, knowledge, or files whose absence would create difficulty?

  Lab Storekeeper (XXXXX) has specific knowledge of the computer skills and programs necessary to complete functions, and has documented how to use them. In case of his absence, another Lab Service employee could review these documents and carry out these functions accordingly. At this time we are training XXXXX, the second senior Lab Service employee.

- **Working at home:** Can this critical function be performed with some (or all) staff working from home? What equipment, supplies, and arrangements would be needed?

  No. Gas tanks/dry ice must be delivered to the campus area locations.

- **Data networks:** How to perform this function if computer networks are not available:

  Materials could be ordered through voicemail; however it would negatively impact the billing system. The shared intranet drive is crucial because delivery records are stored there. In the event that computer networks are no longer available, an alternate means of storing and accessing delivery records would have to be created.

- **Show Stoppers (resources that cannot be replaced, substituted, or done without):**

  Gas tanks, liquid nitrogen bulk and dry ice delivered from vendors.

- **Campus closure:** If campus closure were declared, would it be POSSIBLE to stop doing this critical function for a month or two?

  If no research dependent on laboratory gas and dry ice was being continued, then yes.

  If research dependent on laboratory gas and dry ice was continued, then no.

- **Risks generated by using alternate procedures:**
Possible alternative procedures include having gas/dry ice vendors deliver tanks directly to the
departments/laboratories that need them. In order for this to happen, the various labs in need of tanks would
have to call in their orders individually, making sure that they identify to the vendor where on campus the
delivery would take place. A potentially serious complication with this alternate procedure would be that
the vendor would continue to bill University Services for the delivery—the individual labs would not be
charged individually, meaning that Lab Services would still have to be able to figure out the necessary
billing.

Risks associated with this alternate procedure include: the vendor’s lack of campus knowledge, resulting in
them getting lost and potentially transporting hazardous materials around campus unnecessarily; difficulty
in authenticating delivery—this alternate procedure would require ID badges and/or other credentials to
ensure delivery was correct; having multiple delivery points could cause safety issues, as it is harder to
monitor safety conditions at multiple delivery sites; complications to billing procedure.

Another possible alternative procedure includes having substitute vendors fulfilling campus needs: possible
alternate vendors include XXXXX (contact: XXXXX, ph. 425-XXX-XXXX) and XXXXX for gas tanks,
and XXXXX (limited) and XXXXX for dry ice. Risks associated with this alternate procedure include:
increased costs; delayed delivery times, due to changing companies and/or starting new accounts; lack of
knowledge about campus procedures which may increase safety risks. Any contract with a new vendor
should include an insurance certificate that covers the Northwestern community’s deliveries (one similar to
that already in place in current contracts i.e.: XXXXX’s) to ensure that liability is covered.

In the event that one of the XXXXX supplier locations that currently delivers product to Northwestern were
to have problems, there are several other XXXXX supplier locations around Chicago that would be able to
supply the product with little to no disruption.

- Policy exceptions needed for alternate procedures (& who can grant these exceptions):
  These alternate procedures would need authorization to change vendors and/or delivery procedure.
  Depending on the level of service disruption, authorization/guidance may need to be received from Risk
  Management and Office of Research Safety.

- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day
goal for restarting teaching and research?
  This depends on the varying degrees of need in each lab, and the back-up supply of any given gas in stock
  at any given time.

- Recovery Point Objective: how far back in time can transactions and data associated with this
  function be restored to avoid unacceptable loss.
  The Lab Services G: drive is backed-up daily; therefore the prior day’s G: drive back-up file could be
  accessed in order to restore records of transactions and other data associated with this function.

- Vital Records for restarting this function: Where are they located and how can copies be obtained?
  Records for this function are located on the University Services G: drive. Copies can be obtained by
  accessing this G: drive by the appropriate user.

- Consequences of failure to re-start this function

<table>
<thead>
<tr>
<th>Possible Harmful Consequence</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruption of teaching</td>
<td>0-2 days 1 wk 2 wks 3 wks 4 wks &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td>Disruption of research</td>
<td>X X X X X X</td>
<td>Varies by lab, some are immediately affected, some</td>
</tr>
<tr>
<td>Loss of faculty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Loss of staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Well-being of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal harm to university</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B INFORMATION TECHNOLOGY**

**Recovery Details for Applications:**
(Use the outline below for each identified application)

**IV Program:**

- **Name of Application**
  - IV Interface

- **Type of application:**
  - Intermediary for files from vendors that need to be entered to the PeopleSoft batch upload system

- **Functional owners:**
University Services Business Office – XXXXX

- Technical expert:
  XXXXX

- Person responsible for recovery:
  XXXXX

- Is this a database application?
  Yes – it uses a two small Access databases – one for service descriptions and one for PeopleSoft chart string validation

- Does this application move data to or from core campus systems?
  Yes

- If so, what systems?
  It sends files to the XXXXX file server (which then uploads them for the PeopleSoft batch upload process)

- Departments impacted by failure of this application:
  Any internal customers of a University Services’ recharge center

- Peak periods and/or Critical Timeframes:
  Comment on peak periods and/or timeframes
  Most chargebacks are done at the end of the month since the billing cycle for all but a few recharge centers are monthly.

- Recovery Time Objective: when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
  N/A

- Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.
  28 days as long as no service changes have been made – otherwise the backup must be from a date later than when the service change was made. The validation database is updated each morning with a scheduled job.

- Backup medium:
  The databases reside on the file server which is backed up each night

- Backup auto or manual?
  Auto

- Online storage at:
  NUIT

- Offsite storage at:
  Wherever NUIT does their offsite storage

- Installation disks and documentation located:
  On file server which is backed up each night – under XXXXX profile XXXXX – contains all versions since GoLive.

- Successful recovery ever conducted? When?
  Recovery not needed – just re-install the app and have access to the file server for the databases

- Comments:
In the Business Office, XXXXX’s PC only also needs additional software installed – both GnuPG (with keys) and SSH. All the software along with keys reside in the Apps share under XXXXX. Running of this program depends on the file server XXXXX subdirectory structure and files.

PeopleSoft Validation Database Generation Program:

- **Name of Application**
  PSValidationBuilder

- **Type of application:**
  This application connects to the XXXXX server chartf directory to get the batch upload validation files each morning and generate an Access database from them. It also then forwards the validation files to external vendor XXXXX

- **Functional owners:**
  University Services Business Office – XXXXX

- **Technical expert:**
  XXXXX

- **Person responsible for recovery:**
  XXXXX

- **Is this a database application?**
  Yes – it uses a small Access database

- **Does this application move data to or from core campus systems?**
  Yes

- **If so, what systems?**
  It gets files from the XXXXX file server

- **Departments impacted by failure of this application:**
  Any internal customers of a University Services’ recharge center

- **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
  Most chargebacks are done at the end of the month since the billing cycle for all but a few recharge centers are monthly.

- **Recovery Time Objective: when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?**

- **Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.**
  28 days

- **Backup medium:**
  A copy of the database reside on the file server which is backed up each night

- **Backup auto or manual?**
  Auto

- **Online storage at:**
  NUIT
• **Offsite storage at:**
  Wherever NUIT does their offsite storage

• **Installation disks and documentation located:**
  On file server which is backed up each night – under XXXXX profile XXXXX – contains all versions since GoLive.

• **Successful recovery ever conducted? When?**
  Recovery not needed – just copy the app files and have access to the file server for the database

• **Comments:**
  This runs on a dedicated virtual machine (XXXXX.northwestern.edu) whose IP address needs to be cleared by the firewall dept to have access to XXXXX. It also needs additional software installed – both GnuPG (with keys) and SSH. All the software along with keys reside in the Apps share under XXXXX. This app needs to be setup to run as a scheduled job each morning at 6:35AM (to create the validation DB for the day after the PeopleSoft system has uploaded their files which is supposed to happen by 6:30AM)

**PeopleSoft Validator Backend Program:**

• **Name of Application**
  CufsConverterService

• **Type of application:**
  WCF service that accepts PeopleSoft chart strings and determines if they are valid to be charged against.

• **Functional owners:**
  University Services Business Office – XXXXX

• **Technical expert:**
  XXXXX

• **Person responsible for recovery:**
  XXXXX

• **Is this a database application?**
  Yes – it uses the local PeopleSoft Access validation database which is updated each day by the PSValidationBuilder program

• **Does this application move data to or from core campus systems?**
  No

• **If so, what systems?**

• **Departments impacted by failure of this application:**
  Any internal customers of a University Services’ recharge center

• **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
  Most chargebacks are done at the end of the month since the billing cycle for all but a few recharge centers are monthly.

• **Recovery Time Objective: when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?**

• **Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.**
28 days

- **Backup medium:**
  No need for backup – just reinstall service and make sure validation database exists

- **Backup auto or manual?**

- **Online storage at:**

- **Offsite storage at:**

- **Installation disks and documentation located:**
  On file server which is backed up each night – under XXXXX profile XXXXX – contains all versions since GoLive.

- **Successful recovery ever conducted? When?**
  Recovery not needed – just re-install the service

- **Comments:** This runs on a dedicated virtual machine (XXXXX.northwestern.edu)

### PeopleSoft Validator for Single Chart String Program:

- **Name of Application**
  ChartStringChecker

- **Type of application:**
  App that accepts a user input chart string and determines if it is valid to be charged against.

- **Functional owners:**
  University Services Business Office – XXXXX

- **Technical expert:**
  XXXXX

- **Person responsible for recovery:**
  XXXXX

- **Is this a database application?**
  Yes – it uses the PeopleSoft Access validation database on the file server which is recreated each day by the PSValidationBuilder program

- **Does this application move data to or from core campus systems?**
  No

- **If so, what systems?**

- **Departments impacted by failure of this application:**
  Any internal customers of a University Services’ recharge center

- **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
  Most chargebacks are done at the end of the month since the billing cycle for all but a few recharge centers are monthly.

- **Recovery Time Objective:** when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
- **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss.
  - 28 days

- **Backup medium:**
  - No need for backup – there is no persistent data – the app needs no installation on client PCs and is just run from the server directory XXXXX

- **Backup auto or manual?**

- **Online storage at:**

- **Offsite storage at:**

- **Installation disks and documentation located:**
  - On file server which is backed up each night – under XXXXXX profile XXXXXX – contains all versions since GoLive. If there is a need to reconstruct the running directory – just install the app to a local hard drive and then copy all the files from the installation directory. The app can then be uninstalled from the local hard drive.

- **Successful recovery ever conducted? When?**
  - Recovery not needed – just re-install the app.

**Comments:**

**PeopleSoft Validator for Multiple Chart Strings Program:**

- **Name of Application**
  - RemoteCufSConverterApp

- **Type of application:**
  - App that accepts Excel files with multiple chart strings and determines if they are valid to be charged against.

- **Functional owners:**
  - University Services Business Office – XXXXXX

- **Technical expert:**
  - XXXXXX

- **Person responsible for recovery:**
  - XXXXXX

- **Is this a database application?**
  - No

- **Does this application move data to or from core campus systems?**
  - No

- **If so, what systems?**

- **Departments impacted by failure of this application:**
  - Any internal customers of a University Services’ recharge center

- **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
Most chargebacks are done at the end of the month since the billing cycle for all but a few recharge centers are monthly.

- **Recovery Time Objective:** when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
- **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss.
  
  28 days

- **Backup medium:**
  
  No need for backup – there is no persistent data – app is installed automatically by domain XXXXX

- **Backup auto or manual?**

- **Online storage at:**

- **Offsite storage at:**

- **Installation disks and documentation located:**
  
  On file server which is backed up each night – under XXXXX profile XXXXX – contains all versions since GoLive. But XXXXX install is all set up in the network XXXXX directory.

- **Successful recovery ever conducted? When?**
  
  Recovery not needed – just re-install the app.

**Comments:**

**JST Chart String Validator Program:**

- **Name of Application**
  
  JSTChecker

- **Type of application:**
  
  App that accepts Excel UNS files (upload journal format) with multiple chart strings and determines if they are valid to be charged against.

- **Functional owners:**
  
  University Services Business Office – XXXXX

- **Technical expert:**
  
  XXXXX

- **Person responsible for recovery:**
  
  XXXXX

- **Is this a database application?**
  
  No

- **Does this application move data to or from core campus systems?**
  
  No

- **If so, what systems?**

- **Departments impacted by failure of this application:**
  
  Any internal customers of a University Services’ recharge center
• **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes

  Most chargebacks are done at the end of the month since the billing cycle for all but a few recharge centers are monthly.

• **Recovery Time Objective:** when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

• **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss.

  28 days

• **Backup medium:**

  No need for backup – there is no persistent data – app just needs to be installed

• **Backup auto or manual?**

• **Online storage at:**

• **Offsite storage at:**

• **Installation disks and documentation located:**

  On file server which is backed up each night – under XXXXX profile XXXXX – contains all versions since GoLive.

• **Successful recovery ever conducted? When?**

  Recovery not needed – just re-install the app.

**Comments:**

This app uses the CufsConverterService on the University Service XXXXX virtual machine

**Prepaid IV Program:**

• **Name of Application**

  PrepaidIV

• **Type of application:**

  App that accepts travel files for prepaid travel and puts them in to proper Excel UNS format for sending to Accounting Services.

• **Functional owners:**

  University Services Business Office – XXXXX

• **Technical expert:**

  XXXXX

• **Person responsible for recovery:**

  XXXXX

• **Is this a database application?**

  Yes – it uses the Access PeopleSoft validation database

• **Does this application move data to or from core campus systems?**

  No

• **If so, what systems?**

• **Departments impacted by failure of this application:**
University Services

- **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
  
  End of fiscal year

- **Recovery Time Objective:** when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

- **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss.
  
  28 days

- **Backup medium:**
  
  No need for backup – there is no persistent data – app just needs to be installed and have access to the validation DB on the file server

- **Backup auto or manual?**

- **Online storage at:**

- **Offsite storage at:**

- **Installation disks and documentation located:**
  
  On file server which is backed up each night – under XXXXX profile XXXXX – contains all versions since GoLive.

- **Successful recovery ever conducted? When?**
  
  Recovery not needed – just re-install the app.

Comments:

**SPL File Reporting Program:**

- **Name of Application**
  
  SPLExporter

- **Type of application:**
  
  App that exports all transactions from a journal (that was uploaded to the PeopleSoft system) to an Access database with a Transactions table (used for reporting purposes).

- **Functional owners:**
  
  University Services Business Office – XXXXX

- **Technical expert:**
  
  XXXXX

- **Person responsible for recovery:**
  
  XXXXX

- **Is this a database application?**
  
  Yes – it uses a small Access database

- **Does this application move data to or from core campus systems?**
  
  No

- **If so, what systems?**
• **Departments impacted by failure of this application:**
  University Services

• **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
  End of month

• **Recovery Time Objective:** when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

• **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss.
  28 days

• **Backup medium:**
  No need for backup – there is no persistent data – app just needs to be installed and have access to the reporting DB on the file server

• **Backup auto or manual?**

• **Online storage at:**

• **Offsite storage at:**

• **Installation disks and documentation located:**
  On file server which is backed up each night – under XXXXX profile XXXXX – contains all versions since GoLive.

• **Successful recovery ever conducted? When?**
  Recovery not needed – just re-install the app.

**Comments:**

**Mapi Support DLL:**

• **Name of Application**
  DDEmail.dll

• **Type of application:**
  Just a wrapper DLL file to provide MAPI services to an existing Chicago Parking Access database

• **Functional owners:**
  University Services Parking Office – XXXXX

• **Technical expert:**
  XXXXX

• **Person responsible for recovery:**
  XXXXX

• **Is this a database application?**
  No

• **Does this application move data to or from core campus systems?**
  No

• **If so, what systems?**
Departments impacted by failure of this application:
Chicago parking office

Peak periods and/or Critical Timeframes: Comment on peak periods and/or timeframes
Monthly

Recovery Time Objective: when must this application restart, to enable the campus to meet its 30-day goal for restarting teaching and research?

Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.
28 days

Backup medium:
No need for backup – there is no persistent data – file just needs to be copied from the file server to the local drive and registered via REGSVR32

Backup auto or manual?

Online storage at:

Offsite storage at:

Installation disks and documentation located:
On file server which is backed up each night – under XXXXX profile XXXXX– contains all versions since initial rollout.

Successful recovery ever conducted? When?
Recovery not needed – just copy the file.

Comments:

XXXXX Mail Application

Name of Application: Business Manager

Type of application: USPS Departmental Accounting Software Program

Functional owners: XXXXX

Technical expert: Service requests are called into 1-800-XXX-XXXX. At that time XXXXX will provide phone support, remote diagnostics, or schedule an onsite service call.

Person responsible for recovery: XXXXX is responsible for re-installing base software only. NWU is responsible for data stored either locally or archived on the network for XXXXX to re-install after base software is complete

Is this a database application? Yes, SQL database application.

Does this application move data to or from core campus systems? Yes it can if it is currently networked to your campus system and saving data to a predetermined drive on the network.

If so, what systems? None currently

Departments impacted by failure of this application: University Services

Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? Based on time to install

Backup frequency: Weekly

Backup medium: Local backup on PC currently. Network backup recommended
• **Backup auto or manual?** Manual
• **Online storage at:** n/a
• **Offsite storage at:** n/a
• **Installation disks and documentation located:** Mail Services
• **Successful recovery ever conducted?** When? XXXXX has not been asked to assist in recovering any lost data.
• **Comments:**

**XXX Server**
• **Name of server:** NWU on local pc
• **Type:** SQL
• **Server Software:** N/A
• **Technical Expert:** XXXXX Engineer
• **Person responsible for recovery:** XXXXX will recover the data that is backed up by NWU
• **Applications impacted by failure of this server:** N/A
• **Departments impacted by failure of this server:** University Services
• **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes Business Manager Software is not subject to peak time frames
• **Recovery Time Objective:** when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? Recover goal if backed up by NWU would be one day.
• **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss. Entire history recorded in backups.
• **Backup frequency:** Weekly
• **Backup media:** Recommended network backup of SQL tables
• **Backup auto or manual:** Manual
• **Onsite storage at:** Mail Services
• **Offsite storage at:** N/A
• **Offsite storage frequency:** N/A
• **Installation disks and documentation located:** Mail Services
• **Successful recovery been done – when?** XXXXX has not been asked to assist in recovery of any lost data.
• **Comments:**

**Mail Services Package Tracking Application**
• **Name of Application**
  XXXXXTrac
• **Type of application:**
  Package Tracking Application
- **Functional owners:**
  XXXXXXXXXX

- **Technical expert:**
  XXXXX; 424-XXX-XXXX ext. 225  XXXXX@XXXXX.com or Support@XXXXX.com / 425.XXX-XXXX x0

- **Person responsible for recovery:**
  XXXXXXXXXX

- **Is this a database application?**
  Server Client

- **Does this application move data to or from core campus systems?**
  No

- **If so, what systems?**

- **Departments impacted by failure of this application:**
  University Services

- **Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?**

- **Backup frequency:** Monthly

- **Backup medium:** CD

- **Backup auto or manual?** Manual

- **Online storage at:** Mail Services

- **Offsite storage at:** N/A

- **Installation disks and documentation located:** Mail Services

- **Successful recovery ever conducted? When?** Not Attempted

- **Comments:**

---

**XXXXX Server**

- **Name of server:**
  XXXXX

- **Type:**
  Dell Optiplex 740 Minitower

- **Server Software:**
  SQL2005 Express

- **Technical Expert:**
  XXXXX; 424-XXX-XXXX ext. 225  XXXXX@XXXXX.com or Support@XXXXX.com / 425.XXX-XXXX x0
• Person responsible for recovery:
  XXXXX
• Applications impacted by failure of this server:
  XXXXXTrac
• Departments impacted by failure of this server:
  University Services
• Peak periods and/or Critical Timeframes: Comment on peak periods and/or timeframes
• Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
• Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.
• Backup frequency: Monthly
• Backup media: CD
• Backup auto or manual: Manual
• Onsite storage at: Mail Services
• Offsite storage at: N/A
• Offsite storage frequency: N/A
• Installation disks and documentation located: Mail Services
• Successful recovery been done – when? Not attempted
• Comments:

XXXXX Print Order Application

• Name of Application
  123easyprint
• Type of application:
  Third-Party Web based Print Ordering Service
• Functional owners:
  XXXXX.
• Technical expert:
  XXXXX; 847-XXX-XXXX Support@XXXXX.com
• Person responsible for recovery:
  XXXXX
• Is this a database application?
  Yes
• Does this application move data to or from core campus systems?
  No
• If so, what systems?
n/a

- **Departments impacted by failure of this application:**
  None, orders can be placed via other manual methods.

- **Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?**
  This has no impact on teaching and research.

- **Backup frequency:**
  Nightly

- **Backup medium:**
  Tape

- **Backup auto or manual?**
  Auto

- **Online storage at:**
  Dedicated Hosting Facility

- **Offsite storage at:**
  None currently.

- **Installation disks and documentation located:**
  XXXXX

- **Successful recovery ever conducted? When?**
  Yes. Not documented.

- **Comments:**

  XXXXX Print Server

  - **Name of server:**
    XXXXX

  - **Type:**
    Windows 2003 server

  - **Server Software:**
    Windows 2003 Server

  - **Technical Expert:**
    XXXXX

  - **Person responsible for recovery:**
    XXXXX

  - **Applications impacted by failure of this server:**
    XXXXX

  - **Departments impacted by failure of this server:**
    None, orders can be placed via other manual methods.
• **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
  Peak Hours – Between 6:30am CST and 6:30pm CST.

• **Recovery Time Objective:** when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
  This has no impact on teaching and research.

• **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss.
  1 business day.

• **Backup frequency:**
  Nightly

• **Backup media:**
  Tape

• **Backup auto or manual:**
  Auto

• **Onsite storage at:**
  Dedicated Hosting Facility

• **Offsite storage at:**
  None Currently.

• **Offsite storage frequency:**
  n/a

• **Installation disks and documentation located:**
  XXXXX

• **Successful recovery been done – when?**
  Yes. Not documented.

• **Comments:** XXXXX would not be able to do a periodic trial of recovery of application or server, as this website service to order business cards, letterhead and envelopes is used by other clients, and XXXXX has an uptime responsibility to those clients as well. They can’t take the website down in order to test recovery viability due to the amount of clients they have utilizing the site in various time zones.

**XXXXX Application**

• Name of Application – XXXXX Office DocStore Send & Print

• Type of application: Web-based, XXXXX-hosted, print services ordering

• Functional owners: XXXXX Technical Services

• Technical expert: XXXXX, Sr. Consultant, Customer Technology Solutions (XXXXX@XXXXX.com 414-XXX-XXXXX)

• Person responsible for recovery: XXXXX, Sr. Consultant, Customer Technology Solutions (XXXXX@XXXXX.com 414-XXX-XXXXX)

• Is this a database application? No
• Does this application move data to or from core campus systems? No
• If so, what systems? N/A
• Departments impacted by failure of this application: None. Any department that places print orders via DocStore always has alternative electronic and manual means to access XXXXX Office services.
• Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research? N/A
• Backup frequency: XXXXX backs up DocStore daily
• Backup medium: Redundant server farm, NAS and tape
• Backup auto or manual? Auto and manual
• Online storage at: N/A. XXXXX Office does not currently provide long-term storage of files or data for NU
• Offsite storage at: N/A. XXXXX Office does not currently provide long-term storage of files or data for NU
• Installation disks and documentation located: N/A. Because DocStore Send & Print is a web-based application, XXXXX Office does not require any software installation by or for NU
• Successful recovery ever conducted? When? DocStore has consistent uptime record of over 99%. Those few downtimes that have occurred have generally only lasted for a few minutes before the system was back online. Because the DocStore application is web-based, and hosted by XXXXX, no intervention by NU is required.

Comments:

Chicago Parking Application

• Name of Application
  iParc Professional
• Type of application:
  Parking Revenue system
• Functional owners:
  NWU
• Technical expert:
  XXXXX
• Person responsible for recovery:
  XXXXX
• Is this a database application?
  Yes
• Does this application move data to or from core campus systems?
  No
• If so, what systems?
  n/a
• Departments impacted by failure of this application:
Parking, as well Chicago Campus visitors for the Medical Cntr

- **Recovery Time Objective:** when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
  
  n/a

- **Backup frequency:**
  
  Daily

- **Backup medium:**
  
  RevDrive

- **Backup auto or manual?**
  
  Manual

- **Online storage at:**
  
  no

- **Offsite storage at:**
  
  Weekly tape is sent to University Services , XXXXX

- **Installation disks and documentation located:**
  
  Respective parking office operations

- **Successful recovery ever conducted? When?**
  
  n/a

- **Comments:**
  

**Chicago Parking Server #1**

- **Name of server:**
  
  Dual Core Intel Pentium 925, 3.0FHZ,  Rack Chasis w/Rapid Rails for Dell

- **Type:**
  

- **Server Software:**
  
  Windows Server 2003 R2, Standard Edition with SP2

- **Technical Expert:**
  
  XXXXXX, assistance from NUIT

- **Person responsible for recovery:**
  
  XXXXXX

- **Applications impacted by failure of this server:**
  
  Garage facilities may need to function off the network. The acceptance of credit cards for payment and some revenue reporting will be impacted. Cash transactions and monthly parking permit holders will not be impacted.

- **Departments impacted by failure of this server:**
  
  Parkers in the garage.

- **Peak periods and/or Critical Timeframes:** Comment on peak periods and/or timeframes
Any work to be conducted on the server should not happen between 6:00am to 6:00pm Monday-Friday.

- **Recovery Time Objective:** when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
- **Recovery Point Objective:** how far back in time can systems and data be restored to avoid unacceptable data loss.

Previous day

- **Backup frequency:**
  daily
- **Backup media:**
  Tape drives
- **Backup auto or manual:**
  manual
- **Onsite storage at:**
  Monday – Thursday tapes on site, Friday tape goes to off-site location in Evanston
- **Offsite storage at:** University Services XXXXX
- **Offsite storage frequency:**
- **Installation disks and documentation located:**
- **Successful recovery been done – when?**
- **Comments:**

**Lab Services Application**

- **Name of Application**
  Labservicesorders.com   The database is orders.mdb
- **Type of application:**
  Active server page database application. Customers that work in the research labs, on both campuses, order gas tanks online. The database is FTP’d to a local computer and the biweekly file JL LabServices and monthly file JL Chgo and EV Tank Rental are created.
- **Functional owners:**
  XXXXXX
- **Technical expert:**
  XXXXXX (Lab Services) created the program and modifies the code. XXXXX resolves any server issues. See folder on G Drive named Website support for labservicesorders.com
- **Person responsible for recovery:**
  XXXXX   Contact by e-mailing support@XXXXX, this email must come from XXXXX’s computer. See website support folder for additional information.
- **Is this a database application?**
  yes
- **Does this application move data to or from core campus systems?**
If so, what systems?
N/A

Departments impacted by failure of this application:
Most research departments on both campuses use this program

Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
One day, usually within a few hours. Past problems have always been resolved same day

Backup frequency:
daily

Backup medium:
XXXXX Database is backed up on the G: drive Labservices

Backup auto or manual?
XXXXX backs up automatically. XXXXX backs the database up manually in the folder database named backup orders.mdb in the lab services folder located on the G Drive

Online storage at:
XXXXX

Offsite storage at:
G drive Labservices folder named labservices website file

Installation disks and documentation located:
No – documentation located in G Drive

Successful recovery ever conducted? When?
No - No issues were ever noted

Comments:

Lab Services Application

Name of Application
NUXXXXXandliqnit.com

Type of application:
Asp.net Active server page database application. Customers that work in the research labs, on both campuses, order gas tanks online. The database is FTP’d to a local computer and the biweekly file JL LabServices and monthly file JL Chgo and EV Tank Rental are created.

Functional owners:
XXXXX

Technical expert:
XXXXX (Lab Services) created the program and modifies the code. XXXXX resolves any server issues. See folder on G Drive named Website support for labservicesorders.com

Person responsible for recovery:
Contact by e-mailing support@XXXXX, this email must come from XXXXX’s computer. See website support folder for additional information.

- Is this a database application?
  yes
- Does this application move data to or from core campus systems?
  no
- If so, what systems?
  N/A
- Departments impacted by failure of this application:
  Most research departments on both campuses use this program
- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
  One day, usually within a few hours. Past problems have always been resolved same day
- Backup frequency:
  daily
- Backup medium:
  XXXXX   Database is backed up on the G: drive Labservices
- Backup auto or manual?
  XXXXX backs up automatically. XXXXX backs the databases up manually in the folder database named backup orders.mdb in the lab services folder located on the G Drive
- Online storage at:
  XXXXX
- Offline storage at:
  G drive Labservices folder named labservices website file
- Installation disks and documentation located:
  No – documentation located in G Drive
- Successful recovery ever conducted? When?
  No - No issues were ever noted
- Comments:

Recovery Details for Servers:
(Use the outline below for each identified application)

Servers – all in domain XXXXX.northwestern.edu
One physical server remains solely as a backup domain controller and used for a weekly tape backup (daily backups are done by NUIT on all other servers which are virtual) Windows Server 2003, XXXXXX the responsible person, impact of losing these servers is University Services unable to restore data from times more than 28 days in the past, Peak times 8AM-6PM M-F, recovery time objective – within one day after hardware replacement.

XXXXX – backup domain controller, weekly tape backup

Virtual Servers in Data Center – all Windows Server 2003 R2 with the exception of XXXXXX1 which is Windows Server 2008 R2
These are all maintained by the DataCenter – they take care of backups, etc (no need to contact them – just specify they are part of the VMs from the data center), impact of losing these servers is University Services unable to function, Peak times 8AM-6PM M-F, recovery time objective – hopefully within minutes as it is just a file restore, backups can go back one or two days at most (would be losing info each day)

XXXXX – XXXXX management server
XXXXX – XXXXX update server, SEP management server
XXXXXDC1 – domain controller
XXXXXDC2 – domain controller
XXXXX1 – file server

Server #1

- Name of server:
- Type:
- Server Software:
- Technical Expert:
- Person responsible for recovery:
- Applications impacted by failure of this server:
- Departments impacted by failure of this server:
- Peak periods and/or Critical Timeframes: Comment on peak periods and/or timeframes
- Recovery Time Objective: when must this function restart, to enable the campus to meet its 30-day goal for restarting teaching and research?
- Recovery Point Objective: how far back in time can systems and data be restored to avoid unacceptable data loss.
- Backup frequency:
- Backup media:
- Backup auto or manual:
- Onsite storage at:
- Offsite storage at:
- Offsite storage frequency:
• Installation disks and documentation located:
• Successful recovery been done – when?
• Comments:

Backup of Workstations:
• Computer users (faculty/staff/students) in this unit backup workstations as follows:

We do not back up our workstations—they do not hold any user files—just standard applications that get installed either via the server or from NU software. Note: Our marketing manager and coordinator have Adobe Creative Suite and Macromedia Dreamweaver 8 software installed. XXXXX has those disked locked up but they are standard disks that could also be repurchased from those NU preferred vendors if needed. XXXXX in PRS has proof of purchase and we would just need new media if anything happened to the old ones.

<table>
<thead>
<tr>
<th>Backup Method</th>
<th>Percent of users who use this method</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>User files are stored on departmental server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backup by NUIT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local backup of workstation by user (automatic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local backup of workstation (manual)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No backup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• Workstation support is performed by: (comments)
  
  XXXXX

IT Strategies:
• Purchasing: How to purchase new hardware quickly:
  Through iBuyNU
• Disks and documentation: Location of software and related documentation
  On server or locked up by XXXXX or XXXXX
• Special environmental needs for IT equipment:
  Other than servers that reside in IT’s Data Center, there are no special environment needs
• Technical staff: Will your technical support staff be adequate during an emergency?
  Depends on the scale of the emergency. If everyone is facing the same emergency, our IT consultant will likely work alone or with vendor IT support personnel. If not, its possible our IT consultant could get support from NUIT.
• Obstacles: Potential obstacles that could hinder quick re-establishment of critical IT services:
  Vendor delays. Limited IT support.
• Work from home: IT strategies that will enable & support users to work from home:
  TBD
• **Systems that lack workarounds:** Systems or applications that could NOT be replaced temporarily by ‘workarounds’.

Any proprietary systems that couldn’t be replaced with a manual process like the WildCARD system.

### C \hspace{0.5cm} UNIT PREPAREDNESS

Unit plan to promote preparedness:

**Plan Distribution Policy:**

One coordinator for University Services will manage the Disaster Recovery/Business Continuity Planning process and ensure that plans are in place for critical functions by working with each Program Manager. The Coordinator will review plans, advise those who are developing plans, help determine when new plans are required, and schedule regular review meetings with Program Managers. A review committee comprised of all Program Managers will establish the procedures, policies and format for the Disaster Recovery/Business Continuity Plan.

**Program (Area) Coordinator**

Each program manager will monitor and coordinate the review of existing plans, development of new plans, and testing of plans for their areas. Ideally this person will work with existing staff members with current responsibilities which provide them with an understanding of the scope of the area.

**Review Committee**

This committee will review the Disaster Recovery/Business Continuity Plans for completeness. The members will be made up of the management team of University Services. They will represent the related areas within University Services. Additionally, when appropriate, this committee may include representatives from user departments, associated University departments, or individuals with technical expertise, and others who will be relied upon during an interruption of service.

**Creation of Plans**

A Disaster Recovery/Business Continuity Plan needs to be created/updated when:

a) a new major system, service, or process is implemented,

b) any current system, service, or process with a Disaster Recovery/Business Continuity Plan is significantly changed.

c) New staff members are hired or existing staffers are promoted or switch assignments

Each Disaster Recovery/Business Continuity Plan will need to be created using this template. Copies of each Area's Disaster Recovery/Business Continuity Plan need to be placed in strategic locations.

**Central Review and Updates of Plans**

a) Each Program Coordinator will review its Disaster Recovery/Business Continuity Plans on an annual basis, and submit them to the University Services’ Coordinator.

b) The University Services’ Coordinator will review of the Disaster Recovery/Business Continuity Plans for completeness. Every few years, the Coordinator will schedule a meeting to review the plan(s) with the Review Committee. The final plan will be reviewed and approved or sent back for further modifications, re-reviewed and approved.
Area Review of Plans

Each Program Coordinator will conduct an annual Disaster Recovery/Business Continuity Plan meeting with their staff and others that will be relied upon during an interruption of service to review the plans and emergency policies and procedures for their area. Copies of Disaster Recovery/Business Continuity Plans will be placed in strategic locations designed to be easily accessible during an emergency.

The agenda for the Annual Disaster Recovery/Business Continuity Plan Meeting should include:

a) Area’s Disaster Recovery/Business Continuity Plans
b) Building Evacuation Plan
c) Internal Emergency Communication Plan
d) Other Safety Issues

Unit Communication Procedure:

- Staff Phone Tree (insert staff phone tree with NU email, personal email, cell, text-enabled cell information, and distance from campus)
  o The Director of University Services will be informed of an emergency by the EOC Director or upper level NU personnel, he will then inform University Services Managers. Following this, using the pocket emergency staff phone lists they have on their person; or using the one-page phone list located in the appendix of this plan, University Services Managers will inform the staff members who report to them of an emergency and how that emergency will impact their work.

Disaster Recovery/Business Continuity Assessment Teams: University Services will not have one specific Disaster Recovery or Business Continuity team. Given the eclectic nature of the office, each area manager will work with his/her staff to assess and control damage in an emergency, along with the Director of FMO, Director of Risk Mgt and the EOC Director

- Core Disaster Recovery/Business Continuity Team: (oversee the overall disaster recovery and business continuity efforts)
- Damage Assessment Team: (determine the extent of damage and salvageable items)
- Continuity/Resumption Team: (carry out alternate business continuity activities during an outage)
- Other Teams: (ie Emergency Response Team, Recovery Team, Restoration Team, etc)

Action Items:

- Do the previous sections of this plan (3A Critical Functions and 3B IT) contain action items related to the preparedness of individual staff/faculty/students?
- Comments:
- Are there any other action items you would like to add?
## KEY PEOPLE & RESOURCES

### Communication Resources:

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Emergency home contact list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who keeps printed copies? All Managers</td>
</tr>
<tr>
<td>Who:</td>
<td>All Staff</td>
</tr>
<tr>
<td>Location:</td>
<td>On person and in Appendix</td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Staff emergency contact list</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>System accounts shared by several people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>What are these and who knows them?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td>List all shared passwords</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Accounts used by employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>What are these and who knows them in case staff is not available?</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Recorded messages on phone lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who has access and knowledge to record/change these? XXXXX, XXXXX, XXXXX, XXXXX, and representatives from and XXXXX.</td>
</tr>
<tr>
<td>Who:</td>
<td>Shuttle Hotline</td>
</tr>
<tr>
<td>Location:</td>
<td>847-XXX-XXXX</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Comment:</td>
<td>How many lines? One line, three messages. The introductory message telling callers to choose option one or two depending on the shuttle route they want information on, and then messages for option 1 and 2.</td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>NU Mobile Shuttle Tracker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who has access and knowledge to record/change these? Edulog tracker provider, FES administration, XXXXX (NUIT), XXXXX and XXXXX</td>
</tr>
<tr>
<td>Who:</td>
<td>GPS Mobile tracker</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td>Edulog, contracted by FES to provide the GPS feeds for I-Phone/Android applications</td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Twitter:@NU_SHUTTLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who has access and knowledge to record/change these? XXXXX and XXXXX</td>
</tr>
<tr>
<td>Who:</td>
<td>Shuttle Twitter Account</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td>Tweets are issued when there are unique or general changes to the shuttle service, for example construction re-routes.</td>
</tr>
<tr>
<td>Additional Info:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Message posted on departmental web site (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question:</td>
<td>Who has access and skills to post these? XXXXX and XXXXX</td>
</tr>
<tr>
<td>Who:</td>
<td></td>
</tr>
</tbody>
</table>
Working from Home:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Home computer adequate?</th>
<th>Broadband Connection?</th>
<th>Currently uses campus fileservers from home?</th>
<th>Currently uses campus enterprise applications from home?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical or Key Staff:
(copy and paste additional table for each key staff member)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Title or Function:</td>
<td></td>
</tr>
<tr>
<td>Special Skill:</td>
<td></td>
</tr>
<tr>
<td>How far from campus:</td>
<td></td>
</tr>
<tr>
<td>Car:</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>---</td>
</tr>
<tr>
<td>License Plate:</td>
<td></td>
</tr>
<tr>
<td>Email (NU):</td>
<td></td>
</tr>
<tr>
<td>Email (Alternate):</td>
<td></td>
</tr>
<tr>
<td>Work Phone:</td>
<td></td>
</tr>
<tr>
<td>Cell Phone:</td>
<td></td>
</tr>
<tr>
<td>Home Phone:</td>
<td></td>
</tr>
</tbody>
</table>

**Key Staff of Other Campus Units:**
(cop[y and paste additional table for each staff member or unit)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Department:</td>
<td></td>
</tr>
<tr>
<td>Work Address:</td>
<td></td>
</tr>
<tr>
<td>Work Phone:</td>
<td></td>
</tr>
<tr>
<td>Work Cell:</td>
<td></td>
</tr>
<tr>
<td>Cell Phone:</td>
<td></td>
</tr>
<tr>
<td>Home Phone:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email (NU):</td>
<td></td>
</tr>
<tr>
<td>Email (Alternate):</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
</tbody>
</table>

**Key Off-Campus Partners:**
(cop[y and paste additional table for each partner)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td></td>
</tr>
<tr>
<td>Work Address:</td>
<td></td>
</tr>
<tr>
<td>Work Cell Phone:</td>
<td></td>
</tr>
</tbody>
</table>
Key Vendors: See Appendix for Key Vendors
(copy and paste additional table for each vendor)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td></td>
</tr>
<tr>
<td>Work Address:</td>
<td></td>
</tr>
<tr>
<td>Work Cell:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Alternate Vendor(s):</td>
<td></td>
</tr>
</tbody>
</table>

Key Others: donors, stakeholders, clients, customers (See Appendix for customers of select services like motor pool, the copier management program, etc). In some cases we can reconstruct a customer list if need be from our database of billings or from a vendors database.
(copy and paste additional table for each contact)

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>Cell:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
<tr>
<td>Affiliation:</td>
<td></td>
</tr>
</tbody>
</table>
Office & IT Equipment:

In order to reestablish University Services to a functioning level, we would need at a minimum:

- __44__ PC and 10 laptops with appropriate software
- __44__ monitors
- __44__ workstations (desks, chairs, and other desk paraphernalia and supplies)
- __2__ large tables for mail sorting on each campus along with bins for finer sorting
- ___ filing cabinets
- __44__ telephones
- __44__ network connections (one Ethernet connection and assign IP address for each)
- ___ image scanner
- __44__ office printers
- __10__ combination photocopier and fax machine
- ___ (other please specify) ________________________________

Operating Requirements:

- **Layout needed for working**
  
  (Common workspace, individual offices, etc)

- **Desks and table space Details**
  
  (Number of desks, tables, office equipment)

- **Telephones Details**
  
  (Type, Numbers, Location)

- **Computer Configuration Requirements**

Other Equipment:

(if applicable)

- •
**Supplies:**
(if applicable)
- Identify inventory strategy and what types of office supplies will be required for your unit to operate
  -
- Do you have a 2 week inventory?
  -
- What is your plan after a disruption?
  -

**Facilities:**
(special space or facilities needed i.e. loading dock or bulk/heavy equipment for your operations)
- 

**E  TESTING**
(Insert proposed testing schedule)
Appendix

Key External Vendors
University Services Organization Chart
Staff Emergency Phone list
Motor pool Daily Customers
Motor pool Annual/Permanent Customers
XXXXX Users
XXXXX Users
XXXXXX (XXXXX) users
XXXXX Users
Trademark Licensing contacts/CLC staff phone list/ Big Ten phone list
Business Office Special Actions—IV Program
Business Office Chargeback file summary and back office contacts
XXXXXX Office Major Duplicating Customers
Mail Services Upstream/Downstream Report and Major Customers
Mail Services Emergency Phone Tree
Critical Mail Periods Calendar
Email Listserv for Lab Supplies Customers
PRS
USAR—Outside Billing Contact and Invoice Mailing list
Gas Card Phone List
Gas Card Department Contact List
Vending Refund List
Vending Locations
Vending Phone Tree
Computer & Electronic Recycling phone tree
Northwestern Building Managers
NUMaint program phone tree
Lab Supply Program phone tree

Key External Vendors

Dependency (product or service): Transportation Services (Shuttles/Charters)

<table>
<thead>
<tr>
<th>Primary</th>
<th>Alternate</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td>708-XXX-XXXX/800-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td>317-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td>708-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>XXXXX c502-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>812-XXX-XXXX/800-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>Dependency (product or service):</td>
<td>Edulog GPS Mobile Tracker (Shuttles)</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td><strong>Primary</strong></td>
<td><strong>Alternate</strong></td>
</tr>
<tr>
<td>Supplier(s): XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Phone numbers: 708-XXX-XXXX/800-XXX-XXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Contact name: XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Phone number 317-XXX-XXXX</td>
<td>(406) XXX-XXXX ext 3220</td>
</tr>
<tr>
<td>Alt Contact XXXXX</td>
<td><a href="mailto:XXXXX@XXXXX.com">XXXXX@XXXXX.com</a></td>
</tr>
<tr>
<td>708-XXX-XXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>XXXXX c502-XXX-XXXX</td>
<td>812-XXX-XXXX/800-XXX-XXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service):</th>
<th>Transportation Services (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternate</strong></td>
<td><strong>Alternate</strong></td>
</tr>
<tr>
<td>Supplier(s): XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Phone numbers: 847-XXX-XXXX</td>
<td>847-XXX-XXXX</td>
</tr>
<tr>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>847-XXX-XXXX</td>
<td>847-XXX-XXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service):</th>
<th>Motor Pool rental vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong></td>
<td><strong>Alternate</strong></td>
</tr>
<tr>
<td>Supplier(s): XXXXX</td>
<td>XXXXX (Skokie)</td>
</tr>
<tr>
<td>Contact name: XXXXX</td>
<td>847-XXX-XXXX</td>
</tr>
<tr>
<td>Phone numbers: 847-XXX-XXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Evanston Branch</td>
<td>773-XXX-XXXX</td>
</tr>
<tr>
<td>847-XXX-XXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Chicago Branch</td>
<td>773-XXX-XXXX</td>
</tr>
<tr>
<td>312-XXX-XXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>773-XXX-XXXX</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service):</th>
<th>Lab Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong></td>
<td><strong>Alternate</strong></td>
</tr>
<tr>
<td>Supplier(s): XXXXX Int’l</td>
<td></td>
</tr>
<tr>
<td>Phone numbers: 734-XXX-XXXX (cell)</td>
<td></td>
</tr>
<tr>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td>508-XXX-XXXX (cell)</td>
<td></td>
</tr>
<tr>
<td>XXXXX / XXXXX</td>
<td></td>
</tr>
<tr>
<td>312-XXX-XXXX; 800-XXX-XXXX x6153 &amp; 6115</td>
<td></td>
</tr>
<tr>
<td>Ev Onsite Coord</td>
<td></td>
</tr>
<tr>
<td>Chi Onside Coord</td>
<td></td>
</tr>
<tr>
<td>XXXXX (billing file) 847-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>XXXXX (billing file) 312-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>XXXXX (IT/billing file) 630-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>XXXXX (controller) 630-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>Dependency (product or service):</td>
<td>Lab Gases</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Supplier(s):</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Phone numbers:</td>
<td>847-XXX-XXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service):</th>
<th>Dry Ice</th>
<th>Alternate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier(s):</td>
<td>XXXXX XXXXX</td>
<td></td>
</tr>
<tr>
<td>Phone numbers:</td>
<td>(630) XXX-XXXX</td>
<td>XXXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service):</th>
<th>Alcohol</th>
<th>Alternate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier(s):</td>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td>Phone numbers:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency</th>
<th>Lab Services Order website</th>
<th>Alternate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier(s):</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Phone #</td>
<td>(613) XXX-XXXX</td>
<td>(800) XXX-XXXX</td>
</tr>
<tr>
<td>Email</td>
<td>admin@XXXXX</td>
<td>support@XXXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service):</th>
<th>Travel Services</th>
<th>Approved Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier(s):</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Phone numbers:</td>
<td>XXXXX</td>
<td>847-XXX-XXXX</td>
</tr>
<tr>
<td></td>
<td>630-XXX-XXXX</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service):</th>
<th>Travel Services (continued)</th>
<th>ghost Card Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier(s):</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Phone numbers:</td>
<td>847-XXX-XXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Dependency (product or service)</td>
<td>Office Supplies</td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td><strong>Primary</strong> Supplier(s):</td>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate</strong> Phone numbers:</td>
<td>630-XXX-XXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>877-XXX-XXXXX</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service)</th>
<th>Chicago parking management operations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong> Supplier(s):</td>
<td>Standard Parking</td>
</tr>
<tr>
<td><strong>Alternate</strong> Phone numbers:</td>
<td>312-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>312-XXX-XXXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service)</th>
<th>Shipping/Receiving services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong> Supplier(s):</td>
<td>XXXXX</td>
</tr>
<tr>
<td><strong>Alternate</strong> Contact name:</td>
<td>XXXXX</td>
</tr>
<tr>
<td><strong>Alternate</strong> Phone numbers:</td>
<td>312-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>C:219-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>C:312-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>312-XXX-XXXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service)</th>
<th>Express shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong> Supplier(s):</td>
<td>XXXXX</td>
</tr>
<tr>
<td><strong>Alternate</strong> Contact name:</td>
<td>XXXXX</td>
</tr>
<tr>
<td><strong>Alternate</strong> Phone numbers:</td>
<td>847-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>847-XXX-XXXXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependency (product or service)</th>
<th>Duplicating Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong> Supplier(s):</td>
<td>XXXXX Office</td>
</tr>
<tr>
<td><strong>Alternate</strong> Phone numbers:</td>
<td>847-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>847-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>312-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>773-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>773-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>847-XXX-XXXXX</td>
</tr>
<tr>
<td></td>
<td>XXXXX, Ev Branch Mgr</td>
</tr>
<tr>
<td></td>
<td>XXXXX, Chi Branch Mgr</td>
</tr>
</tbody>
</table>
Dependency (product or service): Printing Services
Supplier(s): XXXXX
Phone numbers: XXXXX
847-XXX-XXXX

Dependency (product or service): Copier lease program
Supplier(s): XXXXX Business
Phone numbers: XXXXX 312-XXX-XXXX
            XXXXX cell 312-XXX-XXXX
            XXXXX 847-XXX-XXXX

Dependency (product or service): Copier lease program (continued)
Supplier(s): XXXXX
Phone numbers: XXXXX 800-XXX-XXXX x7674 Office
            630-XXX-XXXX Cell

Dependency (product or service): Computer recycling
Supplier(s): XXXXX, LTD
Phone numbers: 715-XXX-XXXX
Contact name

Dependency (product or service): Vending
Supplier(s): XXXXX
Phone numbers: XXXXX 312-XXX-XXXX
            630-XXX-XXXX

Dependency (product or service): WildCARD ID production system
Supplier(s): XXXXX (Mfr)
Phone numbers: 952-XXX-XXXX
Tech Support: XXXXX
### Mail Services

**Primary Supplier(s):** XXXXX

Contact name; XXXXX

Phone numbers:
- 312-XXX-XXXX
- Cell 219-XXX-XXXX
- Tech: 800-XXX-XXXX

Ev Post Office 847-XXX-XXXX

### Trademark Licensing

**Primary Supplier(s):** XXXXX

Phone numbers:
- XXXXX
- 770-XXX-XXXX

### Internal Moves (Chicago campus)

**Primary Supplier:** XXXXX

Phone numbers: 847-XXX-XXXX

### Messenger Services

**Primary Supplier:** XXXXX

Phone numbers:
- 773-XXX-XXXX
- 847-XXX-XXXX

### Equipment Maintenance Program

**Primary Supplier:** XXXXX

Phone numbers:
- 800-XXX-XXXX
- XXXXX

### Calibration Services

**Primary Supplier:** XXXXX

Phone numbers:
- 800-XXX-XXXX
- XXXXX
<table>
<thead>
<tr>
<th>Dependency (product or service)</th>
<th>Primary</th>
<th>Alternate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Club (Chicago)</td>
<td>XXXXX</td>
<td>XXXXX Int’l</td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>800-XXX-XXXX x7208</td>
<td>847-XXX-XXXX</td>
</tr>
<tr>
<td></td>
<td>XXXXX (Svcs Mgr)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>614-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>Parking Software (Chi)</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>312-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>Card Reader equipment</td>
<td>XXXXX</td>
<td>XXXXX (Distr)</td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>423-XXX-XXXX</td>
<td>630-XXX-XXXX</td>
</tr>
<tr>
<td></td>
<td>800-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td>ID Card and printer supply vendor</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>708-XXX-XXXX</td>
<td>704-XXX-XXXX</td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td></td>
<td>888-XXX-XXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:XXXXXX@XXXXX.com">XXXXXX@XXXXX.com</a></td>
<td></td>
</tr>
</tbody>
</table>
Dependency (product or service): Computer consultant

<table>
<thead>
<tr>
<th>Primary</th>
<th>Alternate</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
</tbody>
</table>

Phone numbers
847-XXX-XXXX

Alumi shuttle contacts include XXXXX at 847-XXX-XXXX or XXXXX@XXXXX.net and XXXXX at XXXXX@XXXXX.net

Purchasing Resource Services (PRS) has negotiated other preferred vendor contracts and nonexclusive pricing agreements that are relied on by the NU community. Contact information can be found at http://www.northwestern.edu/uservices/purchasing/vendors/index.html by clicking on the “Preferred Vendor” link. Members of PRS have hard copies off site in case access to this information via the web is limited.

**In addition to the above, the following personal protective equipment (PPE) have been sourced by XXXXX of Health Services 1-2132:**

**MASKS**

**Surgical Masks ($0.1094 each)**
Product # 91-1200; $5.47/box of 50
Available from McKesson Medical-Surgical
Contact: XXXXX
847-XXX-XXXX Phone
847-XXX-XXXX Fax

**N95 Respirators ($1.2075 each)**
Product # N95-S; $144.90/case of 120
Product # N95-ML; $144.90/case of 120
Available from Cardinal Health
Contact: XXXXX
800-XXX-XXXX Phone
773-XXX-XXXX Fax

**Fit Testing Kits ($191.96 each)**
Product # 401504; $191.96 each
Available from McKesson Medical-Surgical

**Sensitivity and Fit Test Solution Refills ($13.587 each)**
Product # 352434; $81.52/case of 6
Available from McKesson Medical-Surgical

**DISPOSABLE ISOLATION GOWNS ($0.5372 each)**
GLOVES
Latex, Powder-Free Gloves; $4.59/box of 100 ($0.0459 each)
http://www.glovenation.com/LatexPF.html

Latex-Free, Powder-Free Gloves; $3.99/box of 100 ($0.0399 each)
http://www.glovenation.com/SyntheticPF.html

GOGGLES ($3.2442 each)
Product # 167453; $38.93/case of 12
Available from McKesson Medical-Surgical

ALCOHOL-BASED HAND SANITIZERS
2 oz Bottles ($1.2954 each)
Product # 9605-24; $31.09/case of 24
Available from Corporate Express
Contact: XXXXX
630-XXXX-XXXX Direct
630-XXXX-XXXX Mobile
630-XXX-XXXX Fax

Belt Clips for 2 oz Bottles ($2.1275 each)
Product # 9608-24; $51.06/case of 24
Available from McKesson Medical-Surgical

4 oz Bottles (2.0475 each)
Product # 9651-24; $49.14/case of 24

Stand for Touch-Free Dispenser (47.23 each)
Product # 2424-DS; $47.23/each
Available from Corporate Express

Purell Touch-Free Dispenser (21.4883 each)
Product # 2720-12; $257.86/case of 12
Available from McKesson Medical-Surgical

1200 mL Foam Refills for Touch-Free Dispensers (17.76 each)
Product # 5192-03; $53.28/case of 3
Available from Corporate Express
### Unit Information:
- **Unit Name:** Center for Advanced Molecular Imaging
- **Unit Head:**
- **Coordinator:**
- **Back-Up Coordinator:**
- **Location:**

<table>
<thead>
<tr>
<th>Room No.</th>
<th>Usage</th>
<th>Seats</th>
<th>Occupant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reception</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Conference Room</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Instrument Repair</td>
<td></td>
<td>1 bench</td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tissue Culture</td>
<td></td>
<td>2 benches</td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td>6 benches</td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td>MRI</td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td>MRI</td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td>MRI</td>
<td></td>
</tr>
</tbody>
</table>

### Staff Phone Tree and Contact Information

<table>
<thead>
<tr>
<th>LEAD</th>
<th>Contacts</th>
<th>Phone Numbers</th>
<th>Email Addresses(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>w:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c:</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Top Risks/Vulnerabilities:
- **Risks:**
Hazardous Materials in use:

Time Sensitive materials/activities:

Environmental impacts:

Vulnerabilities

- Loss of Space (lab fire, flooding, etc.):

- Loss of Equipment:

- Loss of Specimens/Samples:

- Loss of Data:

What loss would be the most difficult to recover from:

Show stoppers-list any resources that cannot be replaced, substituted or done without:

Without the equipment listed in the previous question, CAMI cannot be an imaging facility. The MR scanners are replaceable but it is not trivial in scope or expense. Some of the equipment is built to order and could take several months to a year to replace. The and its server are out of production and cannot be replaced exactly. A complete new version of the and server would need to be built. The software that runs the wall would likely need a lot of modification to work with new (replacement) hardware. If the HVAC system is out too long, we could lose housed in CAMI. They may not perish but the research on them could be jeopardized. If chilled water is off for more than a few days, we will lose helium on our . The recovery system could be damaged if chilled water is not stable, i.e., if the cooler shuts down multiple times due to high oil temperatures. Similarly, if power is down for multiple days, the helium recovery system cannot operate and we will lose helium. In a worst case scenario, if enough is lost, the magnet will quench and the manufacturer will have to inspect the magnet, refill the liquid helium, and bring the magnet back up to field. That can take several days.

Continuity/Recovery:

- List Critical Functions/Activities:
  - Research Data Integrity, Continuity of Research Program, Specimen Protection
  - Provide imaging equipment and services for small animals
  - Quantitative image analysis (most data is backed up, however, could be in jeopardy)

- For each Critical Function fill out numbers 1-4

- Provide imaging equipment and services for small animals

  1. Describe actions necessary to manage the impact of loss

    2 Weeks: Depends on the study. Some can be postponed. Some longitudinal studies or time sensitive could be lost. CCM would need access to CAMI’s to maintain, or move the We need access to the facility to access risk for loss and integrity of material containment. We need to maintain power, chilled water, and HVAC for the

    2 Months: Similar to the 2 week scenario. Additionally, some animals may have to be transferred to other facilities. If access to the is limited, the could be jeopardized. needs to be topped off, approximately every 3 weeks. If the
If the liquid is depleted, then the liquid will be lost at an accelerated rate; worst case the could quench.

**6+ Months:** If access to the is limited, then the system could quench as mentioned in the 2 Month scenario. would definitely have to be transferred or sacrificed.

2. Peak periods and/or Critical Timeframes (if any) associated with each Critical Function:
   - There are no predictable peak periods. Activity is dependent on the funding of users.

3. Consequences of failure to re-start this function

<table>
<thead>
<tr>
<th>Critical Function:</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible Harmful Consequence</td>
<td>0-2 days</td>
<td>1 wk</td>
</tr>
<tr>
<td>Disruption of teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disruption of research</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Loss of faculty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Well-being of students</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal harm to university</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Other units, such as the [redacted] rely on [redacted] for imaging and animal housing. [redacted] is often included in campus tours to showcase cutting edge imaging. Recruiting efforts and donor enthusiasm could be affected.

| Impact on other important business partner(s) | X | X | Part of the negotiations for purchasing nuclear imaging equipment included being a “research partner” with the vendor(s). If [redacted] is not available for an extended period, we cannot be research partners with the vendor(s). |

1. Dependencies for each Critical Function:
   - **Upstream (who/what this function depends upon):**
     - Facilities Management – steam, chill water, power, ventilation
     - NU Business Intelligence
     - [redacted] – Business Administration
     - Office for Research
     - Office for Research Safety
     - Office for Sponsored Research
   - **Downstream (who/what depend upon this function):**
     - Facility Users & Clients
     - Subcontracts
     - Office for Research
     - CLP Faculty
     - School of Communication Arts & Sciences
     - McCormick School of Engineering
     - Feinberg School of Medicine
     - Human Resources/Payroll Office
     - UIC (collaboration)
     - Sponsored research

- **Quantitative image analysis**
  1. Describe actions necessary to manage the impact of loss
    - **2 Weeks:** Image analysis could be done at an alternate location.
    - **2 Months:** Similar to the 2 week scenario. At some point we would likely need to acquire new data, i.e., need the imaging equipment.
**6+ Months:** Image analysis requires new imaging data from the imaging equipment. If the facility is down 6+ months, image analysis would likely stop.

2. Peak periods and/or Critical Timeframes (if any) associated with each Critical Function: There are no predictable peak periods. Activity is dependent on the funding of users.

3. Consequences of failure to re-start this function; place an “X” in appropriate columns within the grid below and add any pertinent comments.

<table>
<thead>
<tr>
<th>Critical Function:</th>
<th>Possible Harmful Consequence</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disruption of teaching</td>
<td>0-2 days, 1 wk, 2 wks, 3 wks, 4 wks, &gt;4 wks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disruption of research</td>
<td>X, X</td>
<td>Time critical imaging, based on disease model could ruin an entire project. Sometimes the decision tree requires analysis of previous imaging data.</td>
</tr>
<tr>
<td></td>
<td>Loss of faculty</td>
<td>X</td>
<td>Where capabilities are available elsewhere, faculty may obtain analysis elsewhere.</td>
</tr>
<tr>
<td></td>
<td>Loss of staff</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loss of students</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well-being of faculty/staff</td>
<td>X</td>
<td>Where capabilities are available elsewhere, faculty may obtain analysis elsewhere.</td>
</tr>
<tr>
<td></td>
<td>Well-being of students</td>
<td>X</td>
<td>Where capabilities are available elsewhere, students may obtain analysis elsewhere.</td>
</tr>
<tr>
<td></td>
<td>Payment deadlines unmet by unit</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loss of revenue to campus</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Legal obligations unmet by campus</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Legal harm to university</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impact on other campus unit(s)</td>
<td>X</td>
<td>Anyone relying on imaging would eventually require</td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantitative analysis.</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part of the negotiations for purchasing nuclear imaging equipment included being a “research partner” with the vendor(s). If is not available for an extended period, we cannot be research partners with the vendor(s).

4. Dependencies for each Critical Function:
   - **Upstream (who/what this function depends upon):**
     - Facilities Management – steam, chill water, power, ventilation
     - NU Business Intelligence
     - Office for Business Administration
     - Office for Research
     - Office for Research Safety
     - Office for Sponsored Research
     - CLP Faculty
   - **Downstream (who/what depend upon this function):**
     - Facility Users & Clients
     - Subcontracts
     - Office for Research
     - CLP Faculty
     - School of Communication Arts & Sciences
     - McCormick School of Engineering
     - Feinberg School of Medicine
     - Human Resources/Payroll Office
     - Sponsored research

- **Minimum Requirements:**
  - **Space:** 4,000 square feet
  - **Equipment:** 1 of the two scanners, Spectrum, 6 workstations, (3 licenses), (2 licenses), 3 animal monitoring systems (2 and 1 6)
  - **Electrical:** at least one working phone
  - **Data/Network:** Internet access essential for Campus network access to server. Email is essential
  - **Other:** Chilled water, HVAC for the vivarium, liquid helium, liquid nitrogen, medical air

- **Key Contacts (NU, External Partners, Vendors):**


<table>
<thead>
<tr>
<th>Department</th>
<th>Name</th>
<th>Contact Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEY CONTACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NU Information Technology</td>
<td></td>
<td>847-491-4357</td>
</tr>
<tr>
<td>VP Support Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance Facilities and Research Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts Payable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchasing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office of Risk Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Police</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilities Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP</td>
<td></td>
<td>467-581</td>
</tr>
<tr>
<td>Operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office for Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Procurement of Key Supplies/Equipment:
- All instrumentation, supplies, office equipment can be purchased; either through NU Preferred Vendors or previous vendors used for.
- All purchases will be run through the.

<table>
<thead>
<tr>
<th>Department</th>
<th>Name</th>
<th>Contact Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office for Sponsored Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office for Research Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert H Lurie Cancer Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weinberg School of Communication Arts &amp; Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McCormick School of Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vendors</th>
<th>Contact Info</th>
</tr>
</thead>
</table>
Potential Alternate Operations Strategies:
  - Remote local operations (i.e. work from home): Yes for image analysis, no for imaging services
    - How many people: 2 can do analysis from home.
  - Work with Peers: Y

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Name</th>
<th>Contact Info</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Unit Information:
- Unit Name: RHLCCC Flow Cytometry Core Facility
- Unit Head:
- Coordinator:
- Back-Up Coordinator:
- Location:

Staff Phone Tree and Contact Information (name, office phone, home phone, mobile phone, email address, alternate email address, members of the response/continuity team, other)

Office Phone #
Home Phone #
Mobile Phone #
Email:

Office Phone #
Home Phone #
Mobile Phone #
Email:

Office Phone #
Home Phone #
Email:

Office Phone #
Mobile Phone #

Top Risks/Vulnerabilities:
- Risks:
  - Hazardous Materials in use:
  - Time Sensitive materials/activities:
  - Environmental impacts:
- Vulnerabilities:
  - Loss of Space (lab fire, flooding, etc.):
- Loss of Equipment:
- Loss of Specimens/Samples:
- Loss of Data:
- What loss would be the most difficult to recover from: Loss of Equipment and lab space

- Show stoppers-list any resources that cannot be replaced, substituted or done without:
  Equipment housed in our Core facility:

Continuity/Recovery:
- List Critical Functions/Activities:
  Research Data Integrity, Continuity of Research Program, Specimen Protection
  This Core facility, through the equipments housed and maintained within, provides cell sorting and analysis services to a very wide array of research programs within the university. This core is a very heavily utilized core and any disruption in the work flow leading to excess downtime significantly impacts the research community and also the facility itself. Samples handled include most of which are time sensitive. Loss of lab space and expensive equipment will significantly impact the core ability to support these valuable research projects and over significantly impact the revenues

- For each Critical Function fill out numbers 1-4
- Loss of Lab Space
  1. Describe actions necessary to manage the impact of loss (consider durations of 2 weeks, 2 months, and 6+ months)
     Loss of all lab space will need to be addressed as soon as possible. At least enough lab space must be secured initially, within the first 2 weeks, to house the equipments and begin basic operation as soon as possible. Failure to do so will significantly impact research and core staffing/ revenues. In case of loss of partial lab space, instruments could be moved into the existing space to begin operation (if possible depending on electrical/HVAC layouts).
     After the initial setup and restart of operations, plans to recover the lost lab space must be established and worked upon within 2-3 months to return back to full operation.

  2. Peak periods and/or Critical Timeframes (if any) associated with each Critical Function:
     Year round

  3. Consequences of failure to re-start this function; place an “X” in appropriate columns within the grid below and add any pertinent comments.
<table>
<thead>
<tr>
<th><strong>Critical Function:</strong></th>
<th><strong>Possible Harmful Consequence</strong></th>
<th><strong>Time after disaster when this consequence become critical</strong></th>
<th><strong>Comments</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0-2 days</td>
<td>1 wk</td>
</tr>
<tr>
<td>Disruption of teaching</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disruption of research</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of faculty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-being of students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal harm to university</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Dependencies for each Critical Function:
   - Upstream (who/what this function depends upon):
   - Downstream (who/what depend upon this function):
• **Loss of Equipment**

1. Describe actions necessary to manage the impact of loss (consider durations of 2 weeks, 2 months, and 6+ months)

   are an integral part of the core, loss of which will need to be addressed as soon as possible. As previously mentioned, this core is a very heavily utilized core and any disruption in the work flow leading to excess downtime significantly impacts the research community and also the facility itself.

   Initial assessment will be made within the first few days to assess the extent of damage and repairs needed. If the repairs are minor, a PO will be generated and vendor technical support will be contacted to come and repair the instruments as soon as possible. The aim will be hopefully, to begin basic operation within the first 2 weeks with limited impact on research/revenues. In case of multiple instruments being impacted, the core will try its best to repair atleast one cell sorter and one cell analyzer at the earliest to begin some basic services.

   Major repairs/ complete replacement of the remaining one/two of the instruments is very expensive and will take longer. This could potentially have a significant negative impact on research and core staffing/ revenues. At such times, the core will discuss the available options with the administration and advisory committee for possible solutions. Based on available funds and support through the Cancer Center/University, the core will repair/replace the flow cytometers at the earliest/within 2 months.

   Major repairs/complete loss of all is very unfortunate and restoring back some of the minimal operations through acquisition of a couple of could take up to six months mainly because of the high cost involved. At this time as well, the core will discuss with the for available options to get some basic services of the core restored. However complete restoration could take months if not years.

   2. Peak periods and/or Critical Timeframes (if any) associated with each Critical Function:

      Year round

   3. Consequences of failure to re-start this function; place an “X” in appropriate columns within the grid below and add any pertinent comments.

<table>
<thead>
<tr>
<th>Critical Function:</th>
<th>Time after disaster when this consequence become critical</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-2 days</td>
<td>1 wk</td>
</tr>
<tr>
<td>Disruption of teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disruption of research</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Loss of faculty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of staff</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Loss of students</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Well-being of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal harm to university</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Dependencies for each Critical Function:
   - Upstream (who/what this function depends upon):
   - Downstream (who/what depend upon this function):

- Reduced Staffing
  1. Describe actions necessary to manage the impact of loss (consider durations of 2 weeks, 2 months, and 6+ months)

As stated prior, this is a core facility proving service to over 180 PIs within the NU research community. Most of the cell analysis is done by the users. The core only maintains the instruments, QCs daily and provides training and initial setup of the instrument for data acquisition. The core also preps and acquires samples on a routine basis for some users who wish us to do so (but this is a small %). Reduced staffing in this case will not be a big negative impact. Time could be managed accordingly and users trained to prep and run themselves to reduce any wait times.

But in case of almost all sorting is done by the core staff. Most days we are so booked and busy that we run all three sorters in parallel. The needs to be monitored continuously during a sort, thus running another sorter in parallel is not possible. Which means if only one staff is available, he cannot operate more than one (out of the three we have), or analyze at the same time. In this case, we will have to turn away many users and samples will go waste. To maintain normal work flow, and reduce impact on research, we will need to restore a minimal staff of at least 2 people within the first 2 weeks. Plans for the remaining existing staff to get back to work should be laid out simultaneously to return...
back to full strength as soon as possible. In the unfortunate event when this is not possible, the Core together with administration will make plans to hire a new staff within the first 3-6 months.

2. Peak periods and/or Critical Timeframes (if any) associated with each Critical Function:

3. Consequences of failure to re-start this function; place an “X” in appropriate columns within the grid below and add any pertinent comments.

<table>
<thead>
<tr>
<th>Critical Function:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Possible Harmful Consequence</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Disruption of teaching</td>
</tr>
<tr>
<td>Disruption of research</td>
</tr>
<tr>
<td>Loss of faculty</td>
</tr>
<tr>
<td>Loss of staff</td>
</tr>
<tr>
<td>Loss of students</td>
</tr>
<tr>
<td>Well-being of faculty/staff</td>
</tr>
<tr>
<td>Well-being of students</td>
</tr>
<tr>
<td>Payment deadlines unmet by unit</td>
</tr>
<tr>
<td>Loss of revenue to campus</td>
</tr>
<tr>
<td>Legal obligations unmet by campus</td>
</tr>
<tr>
<td>Legal harm to university</td>
</tr>
<tr>
<td>Impact on other campus unit(s)</td>
</tr>
<tr>
<td>Impact on other important business partner(s)</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

4. Dependencies for each Critical Function:
   - Upstream (who/what this function depends upon):
Downstream (who/what depend upon this function):

Minimum Requirements:

- Space: Equipment rooms, clean room, lab space for sample prep
- Equipment:
- Telecommunications: Two phone lines
- Data/Network: Six data connection lines for data transfer and backup of computers already connected to the office supplies

Key Contacts (NU, External Partners, Vendors):

Vendor:

Procurement of Key Supplies/Equipment:

Centrifuges, water bath, incubators, refrigerators will be acquired through or locally as appropriate.

Potential Alternate Operations Strategies:
- Remote local operations (i.e. work from home): No
  - How many people: ________________________________
- Work with Peers: Possible based on availability
  - Peer Name, Institution, Contact Info:
  - Other: ________________________________________
• Gap List-Is there anything else you think of that is not included within the plans above that would need to be addressed in the advent of a business disruption?