Project Management for Graduate Students

COURSE WORKBOOK

January 22nd, 2018 from 9:00AM-3:30PM

(LUNCH & NETWORKING - 11:45AM-1:15PM)
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Welcome, Overview and Introductions
Intended Course Audience

This course has been especially designed for UW-Madison graduate students who want to enhance their capability to successfully lead a project (or multiple projects) to completion (e.g., a capstone project, a dissertation, field work, etc.)

Course Goals:

This course will help you…

1. Set clear, actionable, and attainable goals that you can measure and monitor
2. Identify and engage those who may influence and affect the attainment of your goals
3. Learn and apply proven and practical project management techniques used by professional project managers
4. Tailor your communication and planning to maximize the value and impact
5. Enhance your project leadership, management, collaboration, and teamwork skills
Major Topic Areas for this Course

1. Understanding the project management lifecycle—from beginning to the end of a project (and why the lifecycle is important)
2. How to identify and engage your stakeholders in defining and endorsing the project requirements
3. Managing risk, communication, and change
4. Executing and controlling the tasks, timeline, and resources
5. Preparing for a successful project closure and transition

Tips for Getting the Most from this Course

- Be open to learning
- Ask questions
- Listen actively
- Share your experiences
- Respect others
Introductions

Opening Activity

1. Introduce yourself (~1 minute)
Project / Portfolio Lifecycle
Basic Definitions

Portfolio: A combination of projects and programs that help achieve an overarching strategy.

Program: A group of projects that focuses on an area of a portfolio

Project: A specific set of tasks that need to be complete to achieve the goals of the program / portfolio.

As an example….
- Your Education Goals might be one of your “Portfolios”
- Attending Graduate School might be one of your “Programs”
- Completing your dissertation or your capstone might be one of your “Projects”

Adapted from Technical Project Management in Living and Geometric Order: A Practical Perspective by Russell, Pferdehirt, and Nelson (2017) and by Morgan, Levitt and Malek (2007)
Aligning Projects with Strategies

Portfolio management translates strategy into action

So Many Projects – Such Limited Time and Resources…

How to decide what to take and what to leave behind???

One technique for scenario planning is based on the knapsack problem, which conceives of a portfolio as a knapsack of a fixed size into which a backpacker can fit only a certain number of items.

Adapted from Technical Project Management in Living and Geometric Order
An Example from Southwest Airlines

*Southwest Airlines Company*…offers short-haul, low-cost, point-to-point service between midsize cities and secondary airports in large cities.

Adapted from Technical Project Management in Living and Geometric Order A Practical Perspective by Russell, Pferdehirt, and Nelson (2017)
Your Goals

*Think, Pair and Share*

1. **Write 2-3 goals that you have for your current project**
   
   a.
   
   b.
   
   c.

2. **Pair up and describe your goals to your partner**

   a. Your partner should listen and ask 1-2 clarifying questions
      
      i.
      
      ii.

   b. **Switch roles and repeat**
      
      i.
      
      ii.
Identifying and Engaging your Stakeholders
Stakeholder and Relationship Map Template

<Your Dissertation>

Internal Resources

External Resources

Customers???
Stakeholder and Relationship Map Example - Leverage Your Support Systems

My Dissertation

<table>
<thead>
<tr>
<th>Internal Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisors</td>
</tr>
<tr>
<td>Me</td>
</tr>
<tr>
<td>Fellow Students</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumni</td>
</tr>
<tr>
<td>External Researchers</td>
</tr>
<tr>
<td>Lab and IT Resources</td>
</tr>
<tr>
<td>Subject Matter Experts</td>
</tr>
</tbody>
</table>

Customers (Future employers, Grant agencies, Foundations, etc.)
Identifying Your Stakeholders

Refer to Exercise 1 in the Case Study
### Project Charter Template

<table>
<thead>
<tr>
<th>Project Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Sponsor</td>
<td></td>
</tr>
<tr>
<td>Project Manager</td>
<td></td>
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<tr>
<td>Primary Stakeholder(s)</td>
<td></td>
</tr>
<tr>
<td>Project Description / Statement of Work</td>
<td></td>
</tr>
</tbody>
</table>

#### Business Case / Statement of Need (Why is this project important and why is it important now?)

Customers *(Direct users/Those impacted by the project)* | Customer Needs / Requirements
--- | ---

#### Project Definition

<table>
<thead>
<tr>
<th>Project Goals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Scope</td>
<td></td>
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<tr>
<td>Project Deliverables</td>
<td></td>
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</tbody>
</table>

**Project Risks** *(Actions, events, and situations outside the project plan that may positively or negatively impact the project)*

#### Implementation Plan / Milestones (Due dates and durations)

#### Marketing Plan *(Market Analysis, Tactical Plan, Budget, and Timeline)*

#### Project Budget / Resources *(Money, people, services, materials, etc.)*

#### Communication Plan *(What needs to be communicated? When is communication needed? To who? How?)*

#### Change Management / Issue Management *(How decisions will be made? How changes will be made?)*

#### Project Team Roles and Responsibilities

<table>
<thead>
<tr>
<th>Team members</th>
<th>Roles</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>

Source: https://quality.wisc.edu/project-management-tools-and-templates.htm
Project Charter

Refer to Exercise 2 in the Case Study
Identifying and Validating Project Requirements and Tasks
Topic Selection—Sifting and Winnowing

- Brainstorming
- Personal Interests
- Building on a Body of Knowledge
- Career/Professional Aspirations
- Grand Challenges
- Possible Topics
- Sifting and Winnowing
- My Approved Topic

Possible Topics

Sifting and Winnowing

My Approved Topic
Topic Selection – Funnel Perspective

Possible Topics

Your Approved Topic

Tip: Begin with the “End in Mind”

(Remember the $25,000 Shower Curtain)
Requirements Gathering

Refer to Exercise 3 in the Case Study
Requirements Gathering (Step-by-Step)

- Plan
- Elicit and Analyze
- Document and Specify
- Quantify and Verify
- Manage Change
Identifying Project Tasks

Step One
- Identify the high-level tasks
- Identify additional details as needed
- Sequence the tasks
- Identify the resources/people needed to perform / complete the tasks

Step Two
- Use the tasks, available resources, and project timeline to create a schedule
Identifying / Validating Your Requirements

Brainstorm ideas - - - - - - - - - - - - - - - - - - - - - Organize, Arrange, Cluster…
Organizing Project Tasks

Refer to Exercise 4 in the Case Study
Managing Risk and Communication Planning
Identifying Risks and Risk Management

Risk—An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives (Project Management Institute).

Risk Management—The process of identifying, quantifying, and managing the risks that an organization faces (Financial Times).

Fishbone Diagram—Identifying Risks

Possible Causes.....
Risk Identification: What could possibly go wrong...go wrong...go wrong?

What is the best-case scenario?

What is the worst-case scenario?

Generate a list of questions – such as....

- Are you performing a new technique?
- Do you have to wait on a lengthy submission / approval process with your Internal Research Board?
- Could your equipment delivery be delayed?
- Could your advisor retire or go on a sabbatical?
- What variability is possible due to unforeseen events?

What are the critical steps?

What are the deadlines / timelines?

How can I prepare for delays and changes?
### Typical Risk Response Strategies

<table>
<thead>
<tr>
<th>Mitigation Strategies</th>
<th>Negative Risks</th>
<th>Positive Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accept the Risk</td>
<td>1. Accept the Risk</td>
<td></td>
</tr>
<tr>
<td>2. Avoid the Risk</td>
<td>2. Ensure the Risk Occurs to Exploit the Risk</td>
<td></td>
</tr>
<tr>
<td>3. Prepare Mitigation Plan in Case the Risk Happens</td>
<td>3. Enhance the Chance of the Risk Occurring</td>
<td></td>
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<tr>
<td>4. Transfer the Risk</td>
<td>4. Share the Risk</td>
<td></td>
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<tr>
<td>5. Escalate the Risk</td>
<td>5. Escalate the Risk</td>
<td></td>
</tr>
</tbody>
</table>

### Risk Matrix Template

**Example**

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Impact / Consequence(s)</th>
<th>Timing</th>
<th>Probability</th>
<th>Mitigation Strategy</th>
</tr>
</thead>
</table>

**Your Risk**

Refer to Exercise 5 in the Case Study
Communication Planning Template using Chronological Sequence

<table>
<thead>
<tr>
<th>Timing</th>
<th>Message(s)</th>
<th>Audience(s)</th>
<th>Method(s)</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Launch</td>
<td>Launch your project</td>
<td>Sponsors / stakeholders</td>
<td>Initial meeting</td>
<td>You</td>
</tr>
<tr>
<td>6 Months Prior to Completion</td>
<td></td>
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<td></td>
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<tr>
<td>1 Month Prior</td>
<td></td>
<td></td>
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<tr>
<td>1 Week Prior</td>
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<tr>
<td>Day of Completion</td>
<td></td>
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<tr>
<td>1 Week After</td>
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<td></td>
</tr>
<tr>
<td>1 Month After</td>
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</tbody>
</table>
## Communication Planning Template for Milestones and Tasks

<table>
<thead>
<tr>
<th>Project Tasks</th>
<th>Message(s)</th>
<th>Audience(s)</th>
<th>Method(s)</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify Stakeholders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Design</td>
<td></td>
<td></td>
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<tr>
<td>Project Implementation</td>
<td></td>
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<tr>
<td>Post-Project Review / Debrief</td>
<td></td>
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</tbody>
</table>
Monitoring Progress and Status Reporting
Status Reporting

- Schedule / Milestones
- Budget vs Actuals
- Changes / Decisions
- Issues / Roadblocks
- Successes

Analyze & Synthesize

Tailor Status for Target Audience
Status Reporting—Who, What, When, How and Why?

I wish I could get a “Reader’s Digest” version…

I wish I knew what was most important to do right now…

I wish we would have known earlier…

I wish we knew what is happening and when…

I wish my advisor and my stakeholders would let me know the issues I need to act on…

Status Report Discussion Questions

• What have you tried?

Refer to Exercise 6 in the Case Study
Managing Change
Change Happens!

Plan for it…. (P.S. Conflict often travels with it as well)

Change may occur as a result of… Leadership Change, Technology Change, Regulatory Change, New Competition, Weather Events, Global Events, New Knowledge...
Discussion Questions

• How might a “Project Charter” help you manage change?

• How might “stakeholders/relationships” help you manage change?

• How might “risk management” help you to manage change?

• How might the “communication plan” help you manage change?

• How might “status reporting” help manage change?

Refer to Exercise 7 in the Case Study
Project Close Out
Project Closeout / Lessons Learned

<table>
<thead>
<tr>
<th>Assess your Current Project</th>
<th>Think Ahead to Future Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goals - Results</strong></td>
<td><strong>New Goals</strong></td>
</tr>
<tr>
<td>(Did I attain the desired results?)</td>
<td>(What should change?)</td>
</tr>
<tr>
<td><strong>What Worked Well?</strong></td>
<td><strong>What Should Be Repeated?</strong></td>
</tr>
<tr>
<td><strong>What Could Have Been Better?</strong></td>
<td><strong>What Should Be Done Differently?</strong></td>
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Fishbone Diagram

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Recap

Major Topics in This Course

1. Project / portfolio lifecycle
2. Identifying and engaging your stakeholders / resources
3. Identifying / validating your requirements and project tasks
4. Managing risks and communications
5. Monitoring progress
6. Managing change
7. Project closeout
8. Next Steps?
Course Evaluation / Follow-up

1. Complete the course evaluation

2. Meet post-docs and schedule follow-up session(s)