

Project Management 101 for Mawrters¹

This guide gives a student-focused approach to basic project management techniques.

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What is a project?

Any piece of work with a defined start and end undertaken to meet unique goals and objectives is a project. Common examples at Bryn Mawr: Writing a paper/dissertation/thesis, fundraising for a club, organizing the fall dance concert etc. Projects are also progressively elaborated, which is a fancy term for continuously improving and refining the plan as more information becomes available.

Defining a Project

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1. This guide was created by Leslie Goloh ('19). Some of the information is adapted from Jennifer Spohrer's "Project Management 101" document (2017).

Defining a project involves getting from the myriad fabulous things you could potentially be doing to improve the world to one achievable, meaningful set of things you are going to do next. These design-thinking exercises can help. Note: if you are defining a project for a group, involve the group in the design thinking if possible.

1. As a group (if applicable), articulate the overall objective of the project you are looking to undertake. The objective might be solving a problem, writing a paper/dissertation, organizing an inter-college event, etc. In coursework related projects, the overarching problem is often already defined for you or restricted to some extent.
2. If your objective is to solve a problem, brainstorm wildly and as a group about possible solutions. For other kinds of projects, think about all the cool things you could possibly do. Try not to self-censor at this point (there will be time for that later). Let your imagination run wild. Be creative. Do not worry about time or other resource constraints at this point because that will greatly restrict the ideas you could come up with. Capture all of your ideas in a document. (This is necessary else you will forget them. As students, we have enough on our minds!)
3. Once you have your ideas clearly written out, rank your ideas according to *importance* (i.e., how essential is it that we do this, according to the criteria meaningful to you) and *achievability* (i.e., how easy, affordable, etc. it will be to do). You may discover that the group will need to research some ideas a little before you can rank them. In a group context, it may be easiest if everyone ranks ideas separately, and then you gather to discuss averages, explain how you have voted, etc.
4. Identify a set of important and achievable things that could fit together into a single project, because they not only support the same objective, but they can be completed by a relatively small group of people in a relatively short (and certainly finite) amount of time.

Note: The last step will be easier if you remind people that you are not giving up entirely on ideas that do not make the cut. You are simply deciding not to do them now, as part of this particular project. Unused ideas can be the seed for a subsequent project, or a separate project that another team is working on. Remember, your goal is to find a few meaningful, achievable chunks to start with. Once you have done those, you can go back for more.

Project Charter

Once you have defined your project, it is important to make sure every member of your project team is on the same page regarding the who, what, when, why, and how of the project. Even if it is not a group project, it is helpful to make a project charter as a source of reference to help you keep track of all the parts of your project. A project charter has six parts, namely:

- **Objective:** A short summary of what you are trying to accomplish, the overall timeframe in which you expect to accomplish it, how you will know when you are finished, and what a successful completion looks like. Try to do this in three sentences or less.
- **Completion/Success Criteria:** How do you know when the project is complete? When you are done because done is good. Now that you are done, how do you know the project is successful? The answer

to this will come from your goal. Does your paper answer the question asked and is it a satisfiable/valid answer? Did your fundraising event generate the funds needed? Sometimes the success criteria will be a list that defines success for different stages of the same project. It is helpful to spell these out clearly.

- **Context/Background:** In this section, you explain why you are undertaking this particular project, and how it fits into the big picture – that is, with other projects or with the broader strategic goals. Example: For something like a research paper, the answer to this would be more than simply "It's the final paper for this class and accounts for the largest part of my grade." It should contain the ideas/circumstances leading to or surrounding the topic of your paper.
- **Goal:** A more precise, itemized list of the things you will accomplish. Goals tend to be practices that are enabled by the deliverables or are in place when the project is complete, such as "Promoting dialogue among student groups to break down barriers of communication," rather than simply, "a workshop on effective dialogue." Some of your goals may include producing what business people call "deliverables," or tangible products of work. For example; video files, papers, posters, PowerPoint presentations, etc. However, the deliverables themselves are rarely the goals.
- **Scope (In or out?):** Your scope is all the work that you must finish to successfully complete your project. From an academic standpoint, this would be the constraints your professor puts on the topic/structure of your work. For example, if your professor states in their instructions to discuss the environmental feasibility of a means of garbage disposal, then the scope of your project would include the environmental parts of it, and other aspects like the technology or economics of it would be out of scope. Sometimes it is easier to define the things that are out of scope first. Doing this will help eliminate the extraneous information and narrow down the options for consideration.
- **When and who:** An outline of when each major goal will be completed, who is completing it, and how much time they will need to contribute. Making time estimates can be hard since things do not often go according to plan. So do not focus on how accurate your estimate is. The point of doing this is to get people thinking and talking about what is realistic. (It gets easier with more experience.)

Whom to Involve:

If you are the wonder woman of projects then you are amazing but even wonder woman needs the backing of the Amazonians to accomplish great goals. People usually undertake projects to effect some change with a group of beneficiaries in mind or simply to get the grades required for their major. Whatever your reason, there are usually people you need to consider engaging for the best outcome.

Example on-campus project: You want to hold a "Ramen Drive" where students can donate extra canned/packaged food from their dorm stash for the less fortunate members of the larger Philly community. Who needs to be involved in this project?

- **Project team:** First up are the people who are actively working on the project and **responsible** for completing portions of it. To pull off a successful drive, your project team could include a driver, people/someone who will advertise the event through various mediums, and representatives from

each dorm who will actually collect the donations. To figure this out, ask yourself; what are the main parts of the project? Whose time or expertise do I need to complete it?

- **Project manager (PM):** Next is the person who is **accountable** for making sure the project gets completed, team members understand what needs to be done and by when it needs to be done. The PM coordinates the resources, team, stakeholders and sponsors to ensure the project runs smoothly.
- **Stakeholders:** A stakeholder of your project is anyone with a vested interest in the project, who needs to be **consulted** and/or **informed** about progress. This always includes the project team, the PM, and the project sponsor. Once you include those directly involved in the project, consider those who are not. Example, people who are consulted throughout or at different points in the project's life cycle, as well as people who are informed of what is going on in the project. You can use the **RACI** index, a shorthand way of describing the roles of the people involved in the project, to help identify your stakeholders. It stands for **Responsible, Accountable, Consulted** and **Informed**. As you can see, the RACI index summarizes all the possible levels of involvement in a project.
- **Sponsor:** The individual(s) or group who is overall accountable for the project and willing to fund it or to “go to bat” for it, if and as needed. In the example above, the sponsors could be the Civic Engagement office.

Creating a Project Plan

Now that you know the “whats” and “whos” of your project, you and your team members need to create a plan for how you are going to achieve it.

A project plan is simply a list of things that need to be done (tasks), along with the estimated dates by which they must be completed and the name(s) of the person responsible for completing them. The goal of your plan is to ensure that:

1. Everyone knows what tasks they should be doing and is doing the “right” tasks.
2. Task deadlines are short enough (i.e. > 2 weeks) to keep momentum going.
3. The project manager can recognize when things are slipping.

In the business world, the plan becomes the focus of **status meetings**. Status meetings are check-ins to determine where each person is on the tasks they are responsible for; what questions, problems or issues have arisen since the last meeting and how to address them; and what changes need to be made to the plan (if any).

However, as Bryn Mawr students our biggest constraint for just about anything is time. This means there will probably not be time for regular status meetings (If you can meet, you are highly encouraged to do so). Therefore, the plan could serve as an accountability document monitored by the project manager. Example: when someone completes a task, he or she can check it off in the doc. The PM will check the document often to ensure everyone is on track based on the status of tasks. If a task is not completed, they will reach out to the individual(s) responsible for it to remind him or her, as deadlines get closer.

Here are two very easy, low-tech ways to create and manage a project plan:

- A shared spreadsheet with four columns – description of task, due date, person responsible, and status.
- A shared Word document. You can use this to manage the project: adding who is responsible, due dates, and status to these tasks (and maybe even transforming this into a table) as you go. However, you will not have the sorting features that you would in a spreadsheet.

View [these instructions](#) to learn how to share MS Office files with OneDrive.

Scoping a project

One of the biggest hurdles to overcome when undertaking a project is remaining within the scope of the project. More often than not, we find ourselves constantly taking on more things than we originally planned. This phenomenon has a name in the business world - Scope creep. It is officially defined as “Adding additional features or functions of a new product, requirements, or work that is not authorized (i.e., beyond the agreed-upon scope).”²

The main causes of scope creep for us are:

- an initial unclear/ambiguous scope definition
- unclear definition of goals/objectives
- illusion of an abundance of time

Case study for identifying scope creep

Let’s say you have to write a 15,000-word (60 pages, double-spaced) thesis on a Shakespeare poem. You meet with your advisor and together, decide on the depth and breadth of the research you will undertake for this project. However, as you are doing the research, you find much less information on your original ideas, and find much more on side-topics. Therefore, you decide to focus on those side topics. Then one day, you stumble on a very intriguing article on an aspect of the poem you had never thought of. Your inquisitiveness is not satisfied with just that article so you keep going and eventually decide to include this in your thesis as well.

At this point, you can see the focus of the thesis has shifted around a lot. This requires a revision of the original plan but notice that the time constraint remains the same. This is scope creep. To make things worse, there is nothing stopping you from including something else in your thesis because it has no clearly defined boundaries.

So how do we set scope boundaries and stick to them?

You could start by asking these questions:

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2. Larson, R. & Larson, E. (2009). *Top Five Causes of Scope Creep... and What to Do About Them*. Paper presented at PMI® Global Congress 2009—North America, Orlando, FL. Newtown Square, PA: Project Management Institute.

- What is the context and objective of the project? The context is to remind you of the situation surrounding your project. Reviewing the project's context and objectives can help refocus your perspectives and attention to what really matters.
- What are the goals? As mentioned earlier, your goals are a more precise itemized list of the things you will accomplish. Constantly reminding yourself of the exact things you are looking to achieve will keep your work on track.
- For each of the goals in the list, what do you need to do to complete it? This is the core question to answer. Correctly recognizing the work you need to do and explicitly documenting it will prevent your project from becoming overwhelming.
- What do the stakeholders expect?

Note that this is not to say that things might not change during a project. Most of the time, changes in a project are inevitable but it is important not to let them get out of control. Creating a visual representation of your project's deliverables using a **Work Breakdown Structure (WBS)** (see appendix) can help you break down your tasks to a level of detail that will make it easier to do just that.

Defining Success Criteria

There are two types of success criteria: project management success criteria and project deliverable success criteria.³ The former are the list of things that determine if you are successful in the way you manage your project whereas the latter deals with the standards your deliverables need to meet to be successful in the eyes of stakeholders. Let us explore how to set these criteria with an example.

Case study for defining Success Criteria

Let's say you are the president of a dance club. Next semester, you would like to display the awesome dance skills of your club members, so you decide to hold a showcase. In light of that, you meet with the executive board members to plan the event. Together, you outline the logistics of the event: date, start/end time, duration etc. Next, you decide the pieces you would like to perform as well as the instructor for each piece.

Well what would it take the showcase to be successful?

The overarching answer will be that the attendees enjoy the event and have a lot fun. The attendees are the stakeholders of the project because they will have to give up something else to attend the show. Therefore, the showcase must be worth their time. How exactly can you measure their satisfaction? To list specifics, some of the measurement criteria could be the following:

- Attract about 10-20 new members
- Increase following/views on social media
- Get invitations to perform at other events

3. [Elizabeth Harrin \(2018\). The Definitive Guide to Project Success Criteria.](#)

However, the success of the showcase depends on the success of its management. The success of management is defined by the project management success criteria. These criteria come directly from your tasks list. They are really the follow-ups that make sure people are meeting their deadlines and every task is being completed as planned. Some examples in this case are:

- Make sure members have signed up for pieces by some deadline
- Hold biweekly meetings to determine dance lesson progress
- Purchase costumes by set date

Estimating Time

Everything anyone does has a start and end time because it is how things get done. However, we can all agree that without deadlines, some things could take forever to complete. As students we sometimes crave the arrival of these deadlines, so that we can say done is good and give ourselves a much-needed break.

Similarly, our projects always have deadlines. There are often two ways people meet these deadlines:

- Manage the project and follow through with individual tasks in a timely manner.
- Procrastinate and depend on pressure and adrenaline to drive them to finish it (You have probably heard people say “I work best under pressure”. That is where this comes from.)

The problem with the second point is that it can be hard to gather enough momentum to start the project as the deadline draws closer. Additionally, you practically set yourself up to not achieve your success criteria by doing that. The very point of project management is to ensure success and completion while reducing stress.

However, creating a project plan does not necessarily guarantee success if you don't estimate well and follow your schedule. The key is to set task deadlines that are long enough to complete the task properly but short enough to keep momentum going.

To help estimate durations for your project's tasks, consider using one of the following estimating techniques:

- **Analogous estimating:** If you have done a similar project or task in the past, think about how long it took you to complete it. Maybe the last 5-page paper you wrote for your Asian American Psychology class took 10 hours to finish. 10 hours may be a good estimate to start with for a similar assignment. Analogous estimating is a quick and easy way of getting a rough estimate based on past experience.
- **Three Point Estimates:** This estimation technique can be more accurate than analogous estimates, as it uses a weighted average to determine the estimated duration. First, determine the following:
 - **Most likely estimate:** The time taken to finish the activity in most cases
 - **Optimistic estimate:** The time taken to finish the activity in the best-case scenario
 - **Pessimistic estimate:** The time taken to finish the activity in the worst-case scenario

Then plug those estimates into the following formula:

Most Likely (4) + Optimistic + Pessimistic / 6 = Three Point Estimate

To continue on with the example of writing a 5-page paper, your **most likely** estimate might be 10 hours. Your **optimistic** estimate might be 8 hours; you've done a similar paper before, and that experience may help you be more efficient this time around. Your **pessimistic** estimate might be 11 hours; this paper may require additional research than previous papers.

$10(4) + 8 + 11 / 6 = 9.83$ hours is your three point estimate!

To make a schedule you can stick to, consider the following:

- **Mini-project or Task⁴:** Tasks are short and do not require many steps. They can usually be completed in some minutes or hours. If a task needs multiple tasks to complete it, then you might be dealing with a mini-project and should treat it as such.
- **Seek experience:** Seek advice from the people with experience.
- **Consider skill and expertise³:** Assign tasks according to the expertise of your team members. If a team member is familiar with a task, let them estimate the time required for it. Otherwise keep in mind that the time estimate you decide on may have to include a learning period as needed.
- **Consider schedules:** Typically, you can complete a task in one session. However, it might be hard to do that due to other responsibilities. Look at your schedule and those of your team members to agree on a suitable period for completion. Doing this will also help you assign more pressing tasks to people who are more available.

4. [Jason Westland \(2015\). "5 Tips for Task Estimating."](#)

Appendix: Work Breakdown Structure (WBS)

As its name suggests, a work breakdown structure breaks down, or “decomposes” all the work that will be required to complete a project. It is defined formally as “a deliverable-oriented hierarchical decomposition of the work to be executed by the project team. ... It organizes and defines the total scope of the project.”¹⁵ There are two ways of organizing a WBS; by deliverable (the outputs of the project) and by phase (the stages of the project).

Think of your WBS as simply a map or chart that shows all the work that needs to be done for a project. As mentioned in the definition, it has a hierarchical structure that starts with the main output of the project at the topmost level. The content of the subsequent levels depend on what organization structure you choose. Let us consider the process of writing a paper on the existence of the vampire squid. We’ll call the paper “Vampire Squid: A Unique Existence.”

WBS by deliverable

In this arrangement, the second level comprises of the sub-deliverables. Subsequent levels consist of further divisions of the sub-deliverables by the tasks required to complete them. For this paper, the subsequent level will consist of the parts of paper. Think of it as the main things the product needs to be complete. In this case, these could be the **content** of the paper and the **bibliography**. When you add these two together, you get the final deliverable, “Vampire Squid: A Unique Existence.” Now that we know what the main sub-deliverables are, we can establish the tasks required for them.

Writing the content

What are some of the things we’ll need to do to write it? Well, first we need to choose a topic. While the overall concept of our paper is about the existence of the vampire squid, we will have to focus on some part of their existence. This could be their ecosystem, their eating habits, their life cycle, or some controlled combination of these three. Now that we have a topic, the next thing to do is research and gather information on it. After doing the research, we can refine the topic statement to better pinpoint the central idea of the paper. Once we have done this, we can make a list of the individual points we will discuss in the paper and using that list, we will make an outline of the paper. Notice I’m using action verbs to describe all these. Because these are tasks to do, they can be checked off in the WBS to help you keep track of where you are.

Writing the bibliography

To write the bibliography, you would need to choose a style from the start to be consistent. Perhaps your professor has already asked for a specific style or maybe you have a preference. Be clear about this before starting the bibliography. Next, make a list of references. Every time you find something useful, add it to the list including all the information about it. Once you’ve made the list, all you need to do is order them

⁵ [Mark Swiderski. PMBOK – Work Breakdown Structure](#)

alphabetically in the style you chose and your bibliography is ready. No need for bibliographies to be a headache.

The resulting WBS can be seen in Figure 1 below. The WBS could be more detailed than this. After you choose a specific topic, you could break down the work to be done according to the requirements for that specific topic. The more specific and detailed you are, the less scope creep you'll have to deal with. This WBS gives a general outline of the work entailed in writing a paper and might not really save you from scope creep.

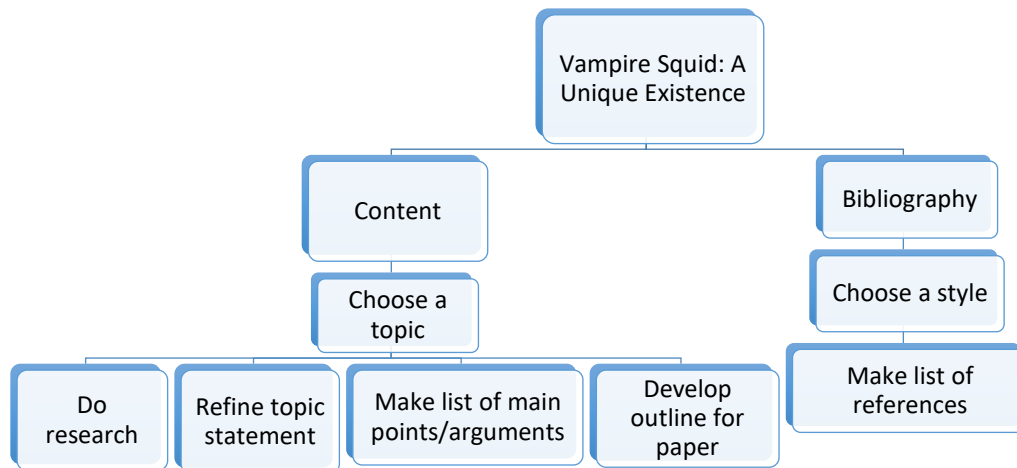


Figure 1. A general WBS of the paper “Vampire Squid: A Unique Existence” organized according to deliverables.

WBS by Phase

The other arrangement builds a WBS according to the stages in the life cycle of the project. For the same example above, you could break down the work into 3 main phases: The project managing phase, the research phase, and the writing phase. Note that even though the WBS is in phases, the topmost node in the hierarchy is still the final deliverable. You may think the tasks in this WBS are too specific. But that is the point of doing this; to be specific enough to know exactly what to do and not find yourself questioning what you should be doing at any point in time.

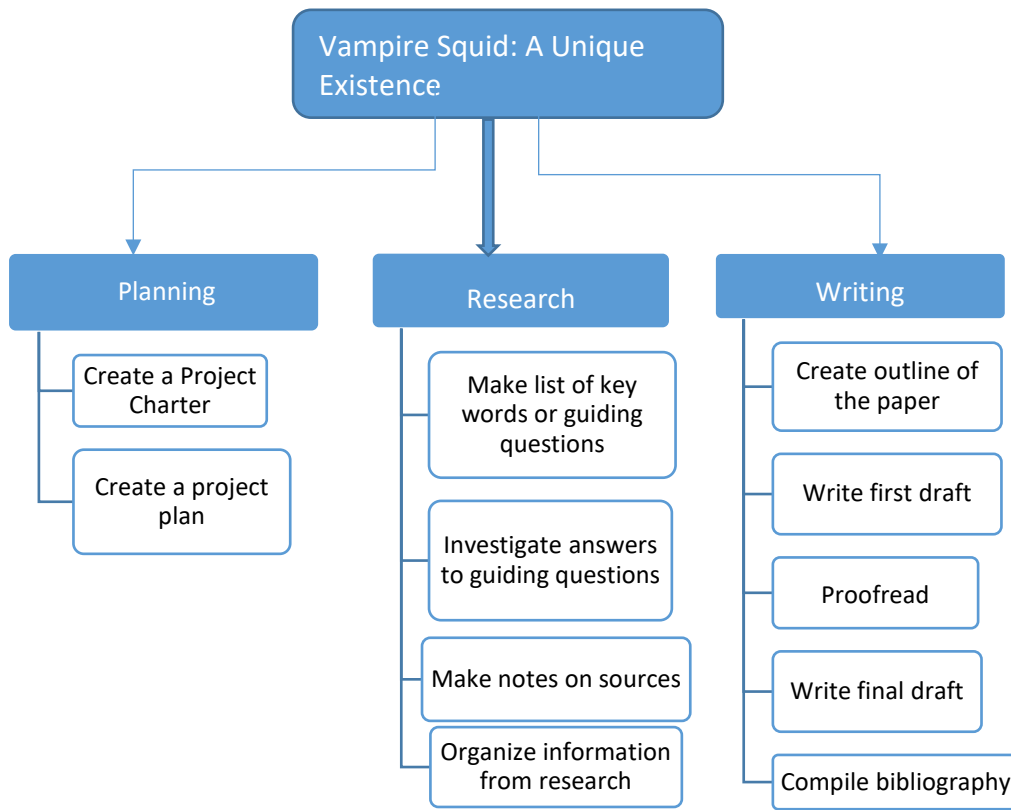


Figure 2: WBS of the paper “Vampire Squid: A Unique Existence” organized in phases.