# Midterm Review

This is meant as a guide, you should be familiar with the class slides and chapters 1-6 in our book.

Chapter 1

- Know what a project is.
    - A **project** is "a temporary endeavor undertaken to create a unique product, service, or result."

- Be able to describe the **triple constraint** and why it is so important to manage.
    - Scope, Time, and Cost (budget)

- What are the 9 knowledge areas, know what core, and facilitating functions are.
    - <u>Core:</u> leads to specific project objectives
        - Scope, Time, Cost, Quality

    - <u>Facilitating:</u> means through which the project objectives are achieved
        - HR, Communication, Risk, Procurement Management

    - <u>1 Knowledge Area:</u> Affects and is affected by all other knowledge areas
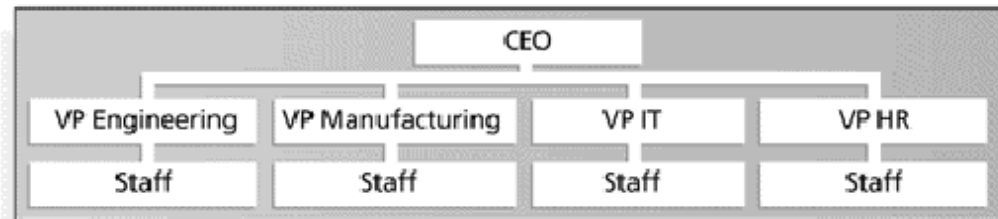   - Project Integration Management
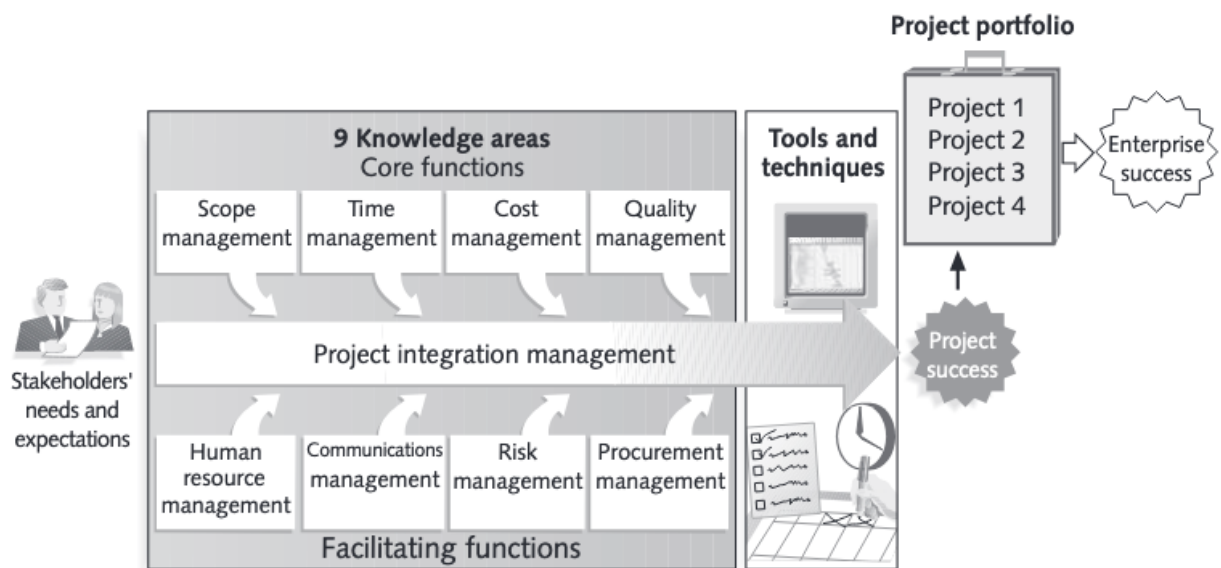
Chapter 2

- Describe the **systems view** (the <u>systems approach</u>) of project management and how it applies to information technology projects.
    - Projects must operate in a broad organizational environment. Project managers need to use **systems thinking**:
        - Taking a holistic view of carrying out projects within the context of the organization
        - Must support current business needs

    - A **systems approach** is a more analytical approach to management and problem solving. **3 parts include**:
        - <u>Systems philosophy</u>
            - Overall model for thinking about things as systems
            - (i.e. the body, a technology, a way things work together like a car or an endocrine system)

        - <u>Systems analysis</u>
            - Problem-solving approach
            - The way you approach a situation, what questions, what problems need to be addressed

        - <u>Systems management</u>
            - Once you have systems, you need to manage it - and think in terms of:
                - Business, Technological, and Organizational
                - These are the <u>3 sphere model of systems management</u>

- Understand organizations, including the four frames, organizational structures, and organizational culture.
    - <u>4 Organizational Frames</u>:
        - Structural:
            - Focuses on roles and responsibilities, coordination, and control. Organization charts help define this frame.
        - HR:
            - Focuses on providing harmony between needs of the organization and needs of people.
        - Political:
            - Assumes organizations are coalitions composed of varied individuals and interest groups.
            - Conflict and power are key issues.
        - Symbolic:
            - Focuses on culture- meanings, symbols, cadence for meetings, dress, punctuality, tone, etc

- 3 Basic Organizational Structures:
  - Functional: functional managers report to the CEO
  - Project: project managers report to the CEO
  - Matrix: middle ground between functional and project structures; personnel often report to two or more bosses; structure can be weak, balanced, or strong matrix.
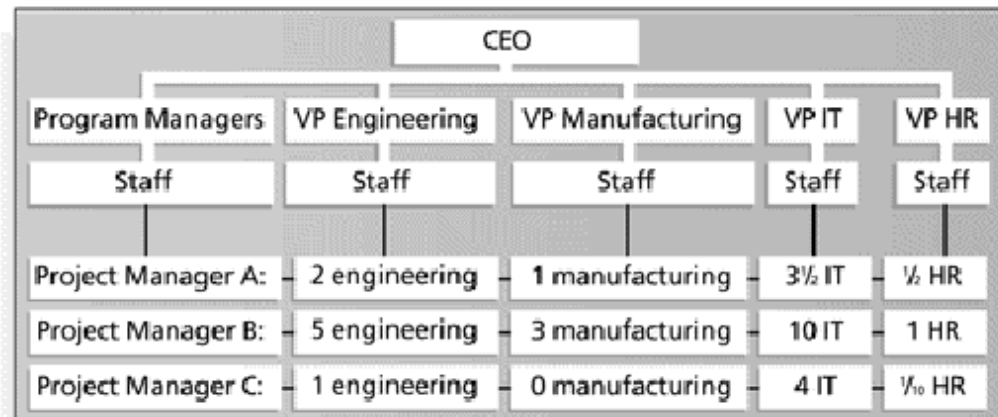
Functional

	CEO		
VP Engineering	VP Manufacturing	VP IT	VP HR
Staff	Staff	Staff	Staff

Project

	CEO	
Program Manager A	Program Manager B	Program Manager C
Staff	Staff	Staff

Matrix

	CEO			
Program Managers	VP Engineering	VP Manufacturing	VP IT	VP HR
Staff	Staff	Staff	Staff	Staff

Project Manager A:	2 engineering	1 manufacturing	3½ IT	½ HR
Project Manager B:	5 engineering	3 manufacturing	10 IT	1 HR
Project Manager C:	1 engineering	0 manufacturing	4 IT	⅟₁₀ HR

Project Characteristics	Organizational Structure Type				
	Functional	Matrix			Project
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project manager's authority	Little or none	Limited	Low to Moderate	Moderate to high	High to almost total
Percent of performing organization's personnel assigned full-time to project work	Virtually none	0-25%	15-60%	50-95%	85-100%
Who controls the project budget	Functional manager	Functional manager	Mixed	Project manager	Project manager
Project manager's role	Part-time	Part-time	Full-time	Full-time	Full-time
Common title for project manager's role	Project Coordinator/ Project Leader	Project Coordinator/ Project Leader	Project Manager/ Project Officer	Project Manager/ Program Manager	Project Manager/ Program Manager
Project management administrative staff	Part-time	Part-time	Part-time	Full-time	Full-time

- ○ Organizational Culture
  - ■ Set of shared assumptions, values, and behaviors that characterize the functioning of an organization.
  - ■ Many experts believe the underlying causes of many companies' problems are not the structure, but a negative or unbalanced culture.

- Explain why stakeholder management and top management commitment are critical for a project's success.
  - ○ Project managers must take time to identify, understand, and manage relationships with all project stakeholders.
  - ○ Using the 4 frames, knowing your org. structure and understanding the culture in organizations can help meet stakeholder needs and expectations.

  - ○ Importance of Top Management Commitment
    - ■ People in top management positions are key stakeholders in projects.
    - ■ Level of commitment and support received by project managers from top management is a **very important factor** in helping PMs lead projects. (Without top management commitment, many projects will fail).
    - ■ Some projects have a senior manager (ex: "Champion") who acts as a key proponent for a project.

  - ○ How Top Management Can Help Project Managers
    - ■ Provide adequate resources

- Approving unique project needs in a timely manner
- Getting cooperation from other parts of the organization
- Mentoring and coaching on leadership issues

Chapter 3

- Know what a process is.
    - A process is a series of actions or steps directed toward a particular result.

- What are the 5 project management process groups?
    - You should know the in's and out's of each process. I might ask specific questions around each process.

    - <u>5 Project Management Process Groups</u>
        - Initiating processes
            - Defining or authorizing a project of phase
        - Planning processes
            - Devising a workable initial scheme cost plans, resource plans, procurement plans.
            - Note: planning can also happen in other processes as things might change/ adjust
        - Executing processes
            - Coordinating people and other resources to carry out activities, actually doing the work.
        - Monitoring and controlling processes
            - Measure progress and changes against the plans
        - Closing processes
            - Formal signoff, lessons learned, close out contracts

    - Process involved in making movies might include:
        - Screenwriting (initiating)
        - Producing (planning)
        - Acting and directing (executing)
        - Editing (monitoring and controlling)
        - Releasing the movie to theaters (closing)

- Have thoughts on why project charters are important.
    - A project charter is a document that formally recognizes the existence of a project and provides direction on the project's objectives and management.
    - Key project stakeholders should sign a project charter to acknowledge agreement on the need and intent of the project; <u>a signed charter is a key output of project integration management</u>.
    - Charters are normally short and include key project information and stakeholder signatures.
    - It's good practice to hold a **kick-off meeting** at the beginning of a project so that stakeholders can meet each other, review the goals of the project, and discuss future plans.

TABLE 3-6   Project charter

Project Title: Project Management Intranet Site Project
Project Start Date: May 2   **Projected Finish Date:** November 4

Budget Information: The firm has allocated $140,000 for this project. The majority of costs for this project will be internal labor. An initial estimate provides a total of 80 hours per week.

Project Manager: Erica Bell, (310) 555-5896, erica_bell@jwdconsulting.com

Project Objectives: Develop a new capability accessible on JWD Consulting's intranet site to help internal consultants and external customers manage projects more effectively. The intranet site will include several templates and tools that users can download, examples of completed templates and related project management documents used on real projects, important articles related to recent project management topics, an article retrieval service, links to other sites with useful information, and an "Ask the Expert" feature, where users can post questions they have about their projects and receive advice from experts in the field. Some parts of the intranet site will be accessible free to the public, other parts will only be accessible to current customers and/or internal consultants, and other parts of the intranet site will be accessible for a fee.

Main Project Success Criteria: The project should pay for itself within one year of completion.

Approach:
- Develop a survey to determine critical features of the new intranet site and solicit input from consultants and customers.
- Review internal and external templates and examples of project management documents.
- Research software to provide security, manage user inputs, and facilitate the article retrieval and "Ask the Expert" features.
- Develop the intranet site using an iterative approach, soliciting a great deal of user feedback.

- Determine a way to measure the value of the intranet site in terms of reduced costs and new revenues, both during the project and one year after project completion.

ROLES AND RESPONSIBILITIES

Name	Role	Position	Contact Information
Joe Fleming	Sponsor	JWD Consulting, CEO	joe_fleming@jwdconsulting.com
Erica Bell	Project Manager	JWD Consulting, manager	erica_bell@jwdconsulting.com
Michael Chen	Team Member	JWD Consulting, senior consultant	michael_chen@jwdconsulting.com
Jessie Faue	Team Member	JWD Consulting, consultant	jessie_faue@jwdconsulting.com
Kevin Dodge	Team Member	JWD Consulting, IT department	kevin_dodge@jwdconsulting.com
Cindy Dawson	Team Member	JWD Consulting, IT department	cindy_dawson@jwdconsulting.com
Kim Phuong	Advisor	Client representative	kim_phuong@client1.com
Page Miller	Advisor	Client representative	page_miller@client2.com

Sign-Off: (Signatures of all the above stakeholders)
Comments: (Handwritten or typed comments from above stakeholders, if applicable)
"I will support this project as time allows, but I believe my client projects take priority. I will have one of my assistants support the project as needed." —Michael Chen
"We need to be extremely careful testing this new system, especially the security in giving access to parts of the intranet site to the public and clients." —Kevin Dodge and Cindy Dawson

- What good can come out of project closure activities?
  - Project closure involved gaming stakeholder and customer acceptance of the final products/ services.
  - Even if projects are not completed (killed), they should be closed out to learn from the past.
  - Outputs include project archives and lessons learned, part of organizational process assets.
  - Most projects include a final report and presentation.

  - Main outputs include:
    - Final product, service, or result transition
    - Organizational process asset updates

Chapter 4

- What's the key to overall project success?
  - Project integration Management is the key to overall project success.
  - PMs coordinate all knowledge areas throughout a project's life cycle.

  - Project Integration Management Process
    - 1. Develop the project charter
      - Working with stakeholders to create the document that formally authorizes a project.
    - 2. Develop the project management plan
      - Coordinating all planning efforts to create a consistent, coherent document
      - Note: the project management plan is **different** from a Gantt Chart
    - 3. Direct and manage project execution
      - Carrying out the project management plan by performing the activities included in it
    - 4. Monitor and control the project work
      - Overseeing project work to meet the **OVERALL** performance objectives of the project
    - 5. Perform integrated change control
      - Coordinating changes that affect the project's deliverables and organizational process assets
    - 6. Close the project or phase
      - Finalizing all project activities to formally close the project or phase

- What is a project management plan?
  - Document used to coordinate all the project planning documents and help guide execution and control.
    - Note: think of it as the master plan, taking all 9-knowledge area plans into account and having a master document, cost plan, time plan, risk plan, etc.
  - Plans created in other knowledge areas are subsidiary parts of the overall project management plan.

- What are key elements of a project charter?
  - Overview, Scope, Schedule, Risks, Budget, Stakeholders

  - Project charters should include at least:
    - The project's title and date of authorization
    - The project manager's name and contact information
    - A summary schedule (including the planned start and finish dates)
    - A summary of the project's budget or reference to budgetary docs

- - - ■ A brief description of the project objectives (including the business need or other justification for authorizing the project)
      - ■ Project success criteria (including project approval requirements and who signs off on the project)
      - ■ A summary of the planned approach for managing the project
      - ■ A roles and responsibilities matrix
      - ■ A sign-off section for signatures of key project stakeholders
      - ■ A comments section in which stakeholders can provide important comments related to the project

- ● Why are strategic planning activities so important for IT teams?
  - ○ A strategic plan provides management the roadmap to align the organization's functional activities to achieve set goals.
  - ○ IT strategic planning assesses what investments and technologies will achieve business goals while also considering the impact of funding them.

  - ○ <u>Might be good to know what goes into strategic planning.</u>
    - ■ Strategic planning involves determining long-term objectives, predicting future trends, and projecting the need for new products and services.
    - ■ Organizations often perform a SWOT analysis, analyzing:
      - ● **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats
      - ● Some people like to perform a SWOT analysis by using a mind mapping (technique that uses branches radiating out from a core idea to structure thoughts and ideas.)

    - ■ As part of strategic planning, organizations:
      - ● Identify potential projects
      - ● Use realistic methods to select which projects to work on
      - ● Formalize project initiation by issuing a project charter

  - ○ <u>Can you define return on investment and payback periods?</u>
    - ■ ROI: calculated by subtracting the project cost from the benefits and then dividing by the costs
      - ● ROI = (total discounted benefits - total discounted costs) / discounted costs
      - ● The higher the ROI the better
      - ● Many organizations have a required rate of return or min. acceptable rate of return on investment for projects.

    - ■ Payback Analysis: payback period or amount of time it will take to recoup invested money.
      - ● Payback occurs when the net cumulative discounted benefits equals the costs.

- Many organizations want IT projects to have a fairly short payback period.

Chapter 5

- What's the importance of good project scope management?
  - Project scope management includes the processes involved in defining and controlling what is **or** is not included in a project.

  - Process for Project Scope Management:
    - Collecting requirements
    - Defining scope
    - Creating the WBS
    - Verifying scope
    - Controlling scope

- What is a requirement?
  - Condition or capability that you must meet or possess to satisfy a contract, standard, specification, or other formal documentation.

  - For some IT projects, it is helpful to divide requirements gathering into categories:
    - Elicitation - get it
    - Analysis - study it
    - Specification - specify it
    - Validation - test it

  - It is important to use an iterative approach to defining requirements since they are often unclear early

- What are some methods for collecting and documenting requirements in order to meet stakeholder needs?
  - How to effectively collect requirements:
    - Interviewing
    - Focus groups and facilitating workshops
    - Using group creativity and decision-making techniques
    - Questionnaires and surveys
    - Observation
    - Prototyping
    - Software tools

  - Documenting Requirements:
    - Requirement docs are often generated by software and include text, images, diagrams, videos, and other media; they are often broken down into different categories such as:
      - functional, service, performance, quality, training requirements, etc

- - - A **requirement management plan** describes how project requirements will be analyzed, documented, and managed
    - A **requirements traceability matrix (RTM)** is a table that lists requirements, various attributes of each requirement, and the status of the requirements to ensure that all requirements are addressed.

- Be prepared to explain the scope definition process.
  - Project scope management includes the process required to ensure that the project addresses all the work required, and only the work required, to complete the project successfully. Main processes include:
    - Collect requirements
      - Interviewing
      - Focus groups and facilitating workshops
      - Using group creativity and decision-making techniques
      - Questionnaires and surveys
      - Observation
      - Prototyping
      - Software tools
    - Define scope
      - Key inputs for preparing project scope statements include:
        - The project charter, requirements for docs, and organizational process assets such as policies and procedures.
      - As time progresses, the scope of a project should become more clear and specific.
    - Create WBS
      - WBS is a deliverable-oriented grouping of the work involved in a project that defines the scope of the project
        - You can use a Gantt chart for the WBS
      - WBS is a foundation doc that provides the basis for planning and managing schedules, cost, resources
      - A work package is a task at the lowest level of the WBS
    - Verify scope
      - Involves formal acceptance of the completed project scope by the stakeholders
      - Acceptance is often achieved by a customer inspection and then sign-off on key deliverables
    - Control scope
      - Involves controlling changes to the project scope
      - Goals of scope control are to:
        - Influence- the factors that cause scope changes
        - Assure- changes are processed according to procedures
        - Manage- changes when they occur

- What's a deliverable?
  - Product produced as part of a project, such as hardware of software, planning docs, or meeting minutes

- What is a WBS and decomposition?
  - WBS is a deliverable-oriented grouping of the work involved in a project that defines the scope of the project
    - You can use a Gantt chart for the WBS
  - WBS is a foundation doc. that provides the basis for planning and managing schedules, cost, resources
  - Decomposition is subdividing project deliverables into smaller pieces
  - A work package is a task at the lowest level of the WBS

Chapter 6

- What's an activity?
  - An activity or task is an element of work that normally has an:
    - Expected duration
    - A cost
    - Resource requirements

  - You need to understand your activities in order to come up with cost, resource, and time estimates!

- What's a milestone?
  - A significant event that normally has no duration, but tells us something major in the project has happened (worth noting).

- Can you explain why knowing about dependencies of project tasks is important?
  - A dependency or relationship helps you **sequence** project activities or tasks.
    - Example: we need to finish the electrical circuits before we install our server racks and plug in the UPS's.

- What are 3 types of dependencies? Can you explain?
  - Mandatory:
    - Inherent in the nature of the work being performed on a project, sometimes referred to as hard logic (the electric example)
  - Discretionary:
    - Sometimes referred to as soft logic and should be used with care since they may limit later scheduling options. (example: we need to build in training for out engineers to support this new system)
  - External:
    - Involve relationships between project and non-project activities (example: new compliance or regulations, etc)

- Know the 3 point estimation system.
  - Instead of provisioning activity estimates as a discrete number, such as four weeks, it's often helpful to create a three-point estimate:
    - An estimate that includes an:
      - Optimistic (3 weeks)
      - Most likely (4 weeks)
      - and pessimistic estimate (5 weeks)

- What's a good goal to have when developing schedules?
  - Ultimate goal is to create a realistic project schedule that provides a basis for monitoring project progress for the time dimension of the project.