

“Knowledge and learning is a right for everyone, and it is the responsibility of the society members to preserve this right.”



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

PMG 312- Project Management Technologies

Project Management Technologies

Prepared by:

Dr. Mona Moustafa Elashry



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

PMG 312- L1
CH1- Introduction

Session Outline

☐ Academic Agenda

☐ Course Objectives

☐ Course Description

☐ Learning Outcomes

☐ Topics



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Academic Agenda

الأسبوع 1	أسبوع توجيهي
الأسبوع 2	محاضرة 1 + اختبار قصير + حلقة نقاش
الأسبوع 3	محاضرة 2 + اختبار قصير + حلقة نقاش
الأسبوع 4	محاضرة 3 + اختبار قصير + حلقة نقاش
الأسبوع 5	محاضرة 4 + اختبار قصير + حلقة نقاش
الأسبوع 6	محاضرة 5 + اختبار قصير + حلقة نقاش
الأسبوع 7	محاضرة 6 + اختبار قصير + حلقة نقاش
الأسبوع 8	محاضرة 7 + اختبار قصير + حلقة نقاش
الأسبوع 9	محاضرة 8 + اختبار قصير + حلقة نقاش
الأسبوع 10	محاضرة 9 + اختبار قصير + حلقة نقاش
الأسبوع 11	محاضرة 10 + اختبار قصير + حلقة نقاش
الأسبوع 12	حلقة نقاش
الأسبوع 13	الاختبارات النهائية



Quizzes & Exams

-- أسئلة الاختبار القصير / MCQ / Matching / true & false / أسئلة صوتية

-- تعد الإجابة علي الاختبار القصير بمثابة الحضور للطالب.

-- الإختبار القصير من ٨ درجة / ٨ اسئلة. (بمجموع ٨٠ درجة)

-- فترة عقد الإختبار القصير ٢٤ دقيقة.



FINAL EXAMS



-- الإختبار النهائي سيكون من خلال المودل.

-- أسئلة الإختبار النهائي / MCQ / Matching / true & false / أسئلة صوتية

-- الإختبار النهائي من ٢٠ درجة.



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الأعمال وتوزيع الدرجات

الأعمال	توزيع الدرجات - 100%
محاضرة مسجلة أسبوعياً- السبت من كل أسبوع	حضور المحاضرة - حل الأسئلة المصاحبة
اختبار قصير مصاحب للمحاضرة بشكل أسبوعي	8 درجات لكل اختبار قصير - بمجموع 80 %
حلقة نقاش افتراضية أسبوعية لمناقشة محتوى المحاضرة المسجلة.	الحضور اختياري
الاختبار النهائي	20%

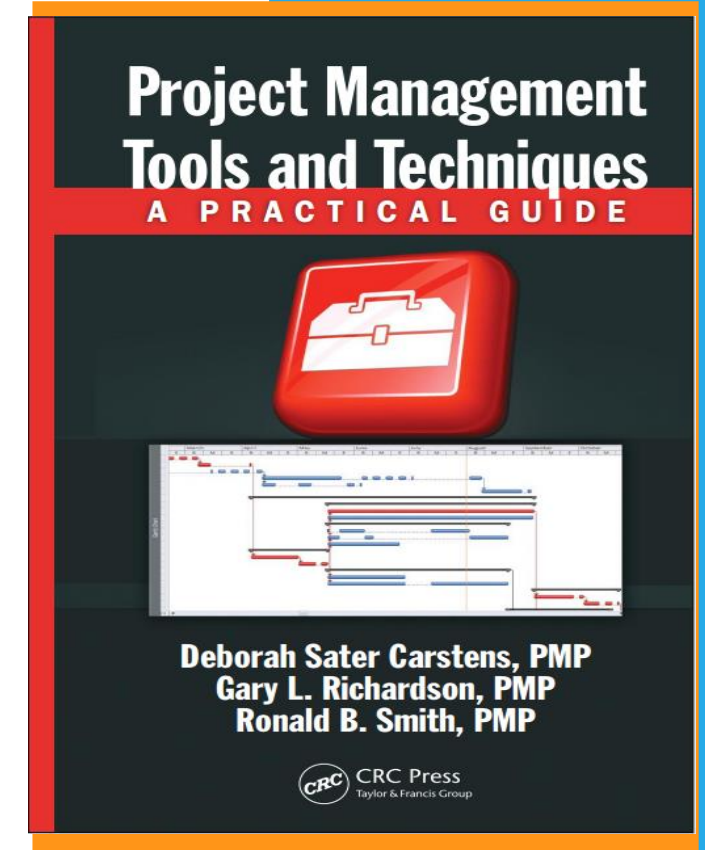
أعمال الفصل الدراسي

يتم احتساب الغياب من خلال حل الطالب للاختبار القصير المصاحب للمحاضرة المسجلة الأسبوعية، وإذا تغيب الطالب 4 اختبارات قصيرة يعتبر الطالب في هذه الحالة حرمان. آخر موعد للاعتذار عن أي اختبار قصير يكون قبل إغلاق موعد الاختبار مع إرفاق دلائل ثبوتية لأي أعذار قهرية أو مرضية عبر نموذج الأعذار عن اختبار قصير عبر منصة (SIS). آخر موعد للاعتذار عن الاختبار النهائي يكون قبل موعد عقد الاختبار مع إرفاق الدلائل الثبوتية لأي عذر قهري أو طبي، عبر نموذج الأعذار عن اختبار نهائي عبر منصة (SIS)، ولن يتم احتساب أي أعذار بعد نهاية الموعد.

● يحق لإدارة الجامعة مراعاة بعض الظروف القهرية.

Course Description

- ❑ Credit Hours: 3 credit hours
- ❑ The materials and reference for this course will be:
 - The textbook.
 - Lecture notes and slides.
- ❑ Required Textbook: Project Management Tools And Techniques
by Sater Carstens; Gary L. Richardson; Ronald B. Smith



Online Lecture

- Answer your questions/ Inquiries
- Solve different questions/problems related topic
- Provide and discuss your opinion with the instructor/ classmates

Course Objectives

This course aims to teach students how to:

- Use variety of project management tools and data collection tools.
- Be able to increase your project management effectiveness.

Reference



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Project Management Tools and Techniques

A PRACTICAL GUIDE



Deborah Sater Carstens, PMP
Gary L. Richardson, PMP
Ronald B. Smith, PMP



CRC Press
Taylor & Francis Group

Learning Outcomes

- This course will provide you with a complete overview and a basic understanding of the Project Management Cycle.
- Understand different common tools for project management.
- Appraise the features, advantages, and disadvantages of typical information systems, and demonstrate which project contexts may be best suited for certain types of PMIS and why.

Learning Outcomes

- Given a complex project context and its plan, use one or more information systems to recommend a suite of tools, and demonstrate how the information systems will be used to monitor and control project deliverables.

Learning Outcomes

- Demonstrate how collaboration and communication tools that are provided in a PMIS can be used in various types of projects and defend the best practices in the use of these tools.
- Use a step-by-step process to manage projects faster while using fewer resources.
- Avoid common pitfalls and mistakes in managing projects.
- Explore different online tools that can be incorporated in the project management tasks

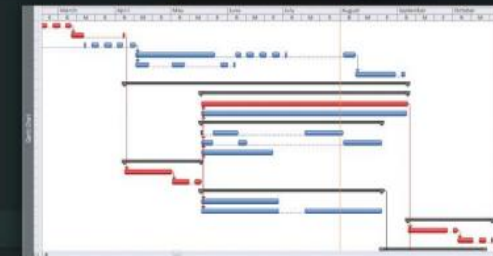


CH1- Topics

- Section I—Role of the project
- Section II—Project formulation using tools and techniques
- Section III—Developing project scope
- Section IV—Tools and techniques for developing the project plan
- Section V—Project execution
- Section VI—Advanced tools and techniques..

Project Management Tools and Techniques

A PRACTICAL GUIDE



Deborah Sater Carstens, PMP
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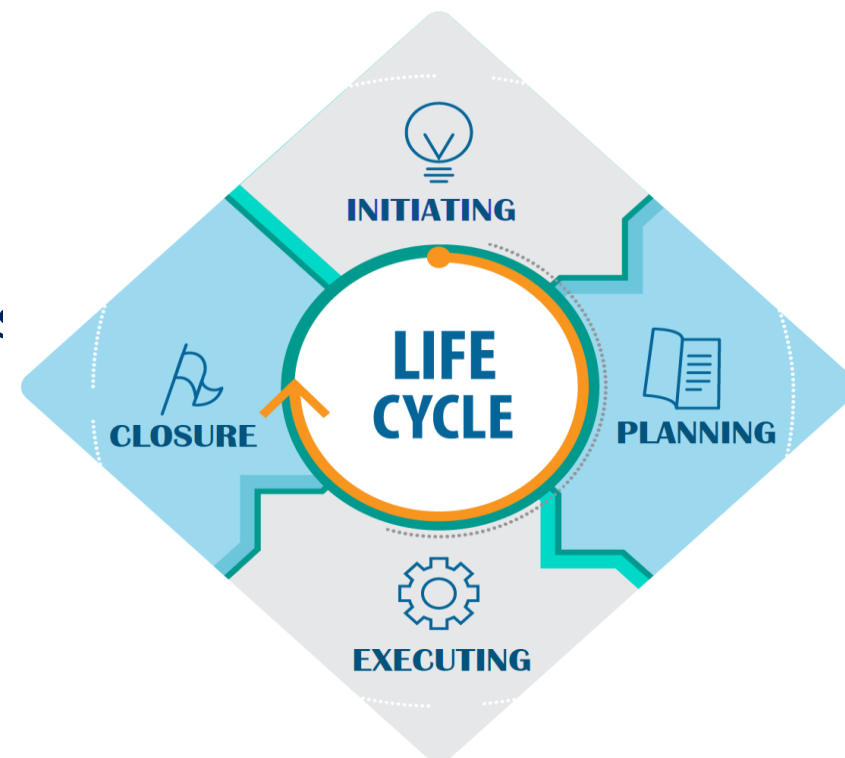
Section I—Role of the project

This section is designed to give an introduction to the project management by covering the following learning objectives:

- ❑ Identify the importance of good tools and techniques for managing and running projects. For example, using add-ins to MS Project 2010 and complementary software such as Word, Excel, and PowerPoint are included.

Section I—Role of the project

- ❑ Recognize that projects should have a **standardized life-cycle** development approach, which is called a **methodology**.
- ❑ This includes **requirements** definition, workshops, brainstorming, developing the project business case, and discussing how to evaluate and prioritize project proposals.



Section I—Role of the project

- ❑ Even though a methodology is described as a standard approach for an organization, it should always be viewed as a living organism that needs to be matched with each project and updated for improvements based on lessons learned and general experience.

Section I—Role of the project

- ❑ Understand the root cause behind power and politics in an organization.
- ❑ For many organizations, power and politics occur due to internal conflicts over scarce labor resources, monetary resources, facility (space) resources, and equipment resources.

Section I—Role of the project

- ☐ Understand the different forms of organizational structures.
- ☐ Every organizational culture is different, but regardless of the culture, every project, in order to be successful, needs support from its host organization.
- ☐ So that the organizational structure is supportive and not restrictive to the accomplishment of the project goals

Section I—Role of the project

Six different types of organizational structures :

1. Centralized structures
2. Functional structures
3. Projectized structure
4. Matrix
5. Virtual structure

6. Composite systems

- Each of these structures has distinct characteristics.
- There are benefits and challenges for each of these structures that must be understood to use them effectively or manage their shortcomings if the choice is dictated.



Section II—Project formulation using tools and techniques

- ❑ **This section focuses on the beginnings of a project—**
 - ✓ How to pick the right projects
 - ✓ The importance of business objectives
 - ✓ Common selection criteria, and gaining support for the project
 - ✓ Discuss what a project charter is and the importance of having one.

Section II—Project formulation using tools and techniques

❑ Most organizations have too many requests for new projects but have limited:

- Money
- Human Resources
- Equipment to implement them all

So a consistent selection process is needed that will benefit the overall organization.

Section II—Project formulation using tools and techniques

Upon completion of this section, the following tools and techniques should be understood regarding why they are required as part of the project selection process:

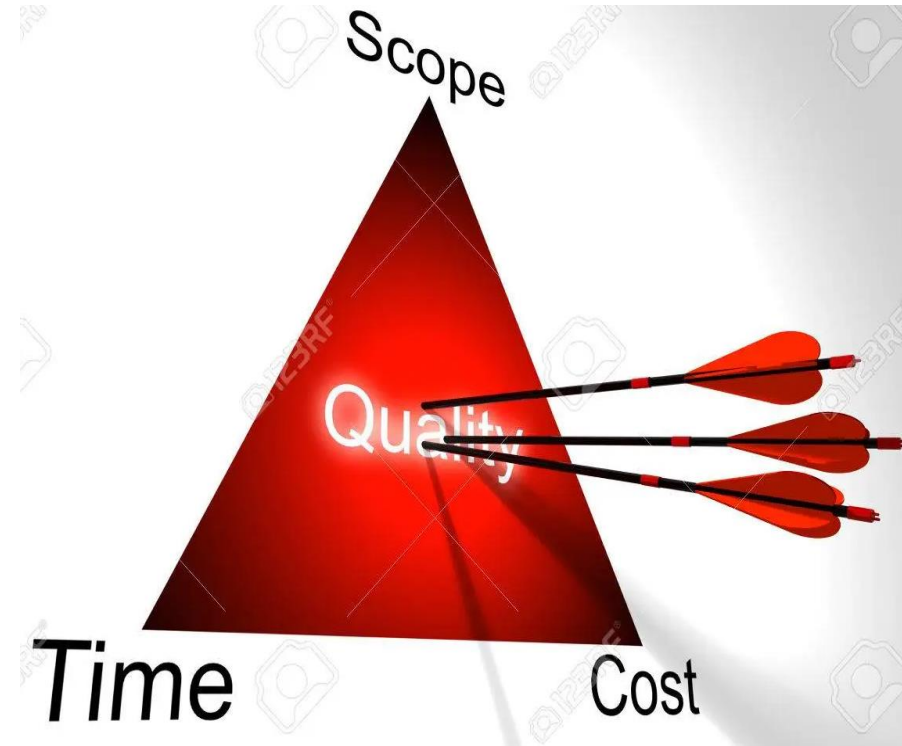
- Understand common business factors and priorities when approving a new project while working with limited IT resources.
- Identify mechanics for selecting the right projects using financial decision models, including feasibility study, payback period, NPV, and depreciation and income tax.

Section II—Project formulation using tools and techniques

- Identify mechanics for selecting the right projects using nonfinancial models, including project questionnaire assessment, comparing different projects based on different criteria, and weighted criteria.
- Understand the mechanics of the management of applications and project charters

Section III—Developing project scope

- ❑ This section focuses on translating the original project goal into a work unit-oriented structure with initial time and cost estimates.
- ❑ Scope **definition** is considered as the key initiation step for a project and one that is necessary for future success.



Section III—Developing project scope

- Develop the scope management plan as part of the scope planning process.
- Develop the scope statement as part of the scope definition process.
- Identify, analyze, refine, and document project requirements, assumptions, and constraints to produce a technical project and product scope definition.

Section III—Developing project scope

- Development of a deliverables-oriented WBS created from the initial project charter, scope statement, and other project specification documents.
- From this definition, step technical work units are defined and will be used to facilitate detailed project planning, which is then used in the executing, monitoring and controlling, and closing processes.



Section III—Developing project scope

- Estimating tools and techniques are described to show how development of project work unit specifications leads to a total project budget.
- Introduce the relationship of scope, time, cost, and resources into the overall management equation.

Project Scope Management (Overview)

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graph TD; A[Project Scope Management (Overview)] --> B[1. Plan Scope Management  
Engaging and authorizing the plan how the project scope will be defined, validated and managed throughout the project.]; A --> C[2. Collect Requirements  
Determining, documenting and managing requirements of the stakeholders and match their needs.]; A --> D[3. Define Scope  
Developing a comprehensive description of the scope statement that sets the course for future decision making.]; A --> E[4. Create WBS  
The process of subdividing the major deliverables into smaller manageable sizes.]; A --> F[5. Validate Scope  
Verifying or accepting the deliverables for the project scope statement.]; A --> G[6. Control Scope  
Managing and controlling changes of the project scope.]; B --> C; C --> D; D --> E; E --> F; F --> G; G -.-> D;
```

1. Plan Scope Management

Engaging and authorizing the plan how the project scope will be defined, validated and managed throughout the project.

2. Collect Requirements

Determining, documenting and managing requirements of the stakeholders and match their needs.

3. Define Scope

Developing a comprehensive description of the scope statement that sets the course for future decision making.

4. Create WBS

The process of subdividing the major deliverables into smaller manageable sizes.

5. Validate Scope

Verifying or accepting the deliverables for the project scope statement.

6. Control Scope

Managing and controlling changes of the project scope.

Section IV—Tools and techniques for developing the project plan

- This section highlights the key components for developing a “raw” project plan.
- In this regard, these mechanics represent a core project management process that should be followed for initiating the project plan.

Section IV—Tools and techniques for developing the project plan

- Previous foundation work for developing the project scope through the WBS process and initial work unit estimates has been described in Section III and we are now ready to move on to the next two legs of the project planning journey, that is, schedule and budget.
- The first cut project schedule evolves directly from the scope definition and work estimating

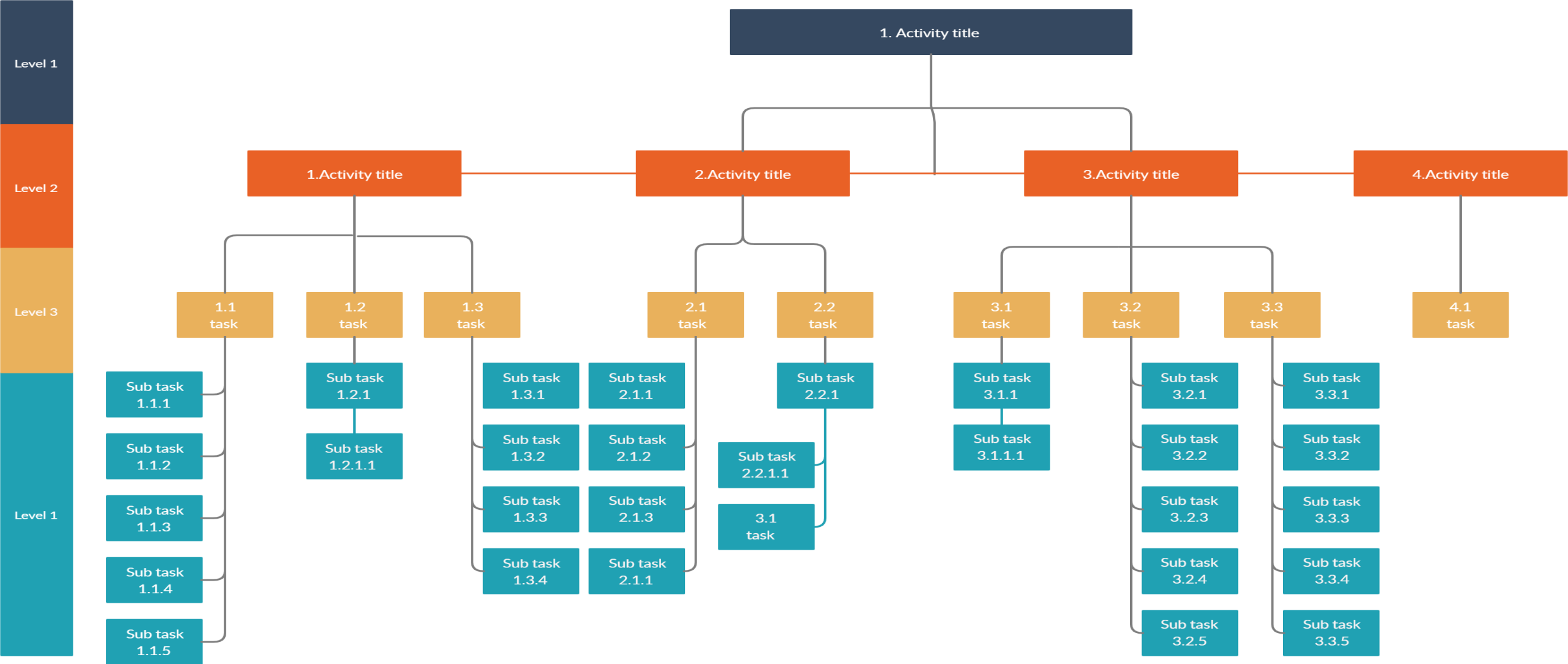
WORK BREAKDOWN STRUCTURE for ABC Co.

PROJECT TITLE

COMPANY NAME

PROJECT MANAGER

DATE



Section IV—Tools and techniques for developing the project plan

- Project schedules are basically derived from linked WBS activities.
- The main new mechanical ingredient to add at this point is resource allocations to these work activities in order to derive estimated durations and the sequencing of those activities.(Critical path calculation)

Section IV—Tools and techniques for developing the project plan

- In this section, the project plan is represented as a direction aggregation of scope definition, work estimation, and resource allocation to the effort.
- The result is called the first cut plan, which implies more processes will need to be added to this view.

Section IV—Tools and techniques for developing the project plan

In this section, the following mechanics and concepts should be understood regarding why they are required as part of the core schedule and cost planning process:

- Identify mechanics for translating the WBS into a first cut schedule.
- Identify mechanics for translating the first cut schedule into a first cut budget through resource allocation.
- Understand management concepts for tweaking a plan's scope, time, and cost to better satisfy the key stakeholders.
- Understand the general processes required to obtain management approval for the derived project plan.

Section V—Project execution

- This section provides an overview of tools and techniques to help the PM successfully execute a project.
- The section addresses a portion of the project life cycle.
- The tools and techniques discussed better equip a PM with the managing the project performance, cost, schedule, outcome, scope, and resources

Section V—Project execution

The learning objectives for this section are listed as follows:

- ☐ Understand the difference between metrics and measures to track project performance.
- ☐ Describe the earned value (EV) suite of status evaluation techniques to provide the PM with sophisticated tools to examine project performance.
- ☐ Identify different types of project status reports to be utilized by the PM to successfully track the project progress.

Section VI—Advanced tools and techniques

- The methods described in this section focused on a different aspect of project decision-making from early in the project selection process through the execution phase.



Section VI—Advanced tools and techniques

❑ The learning objectives for this section are

- Understand the PERT model as it relates to variable time scheduling.
- Describe how simulation modeling can be used to model future project performance..



Section VI—Advanced tools and techniques

- Outline the basic mechanics of the risk model to illustrate how simulation tools can help with the evaluation of the project performance.



Section VI—Advanced tools and techniques

- Understand project, program, and portfolio management as it applies to an enterprise EPMO (Enterprise project management office)

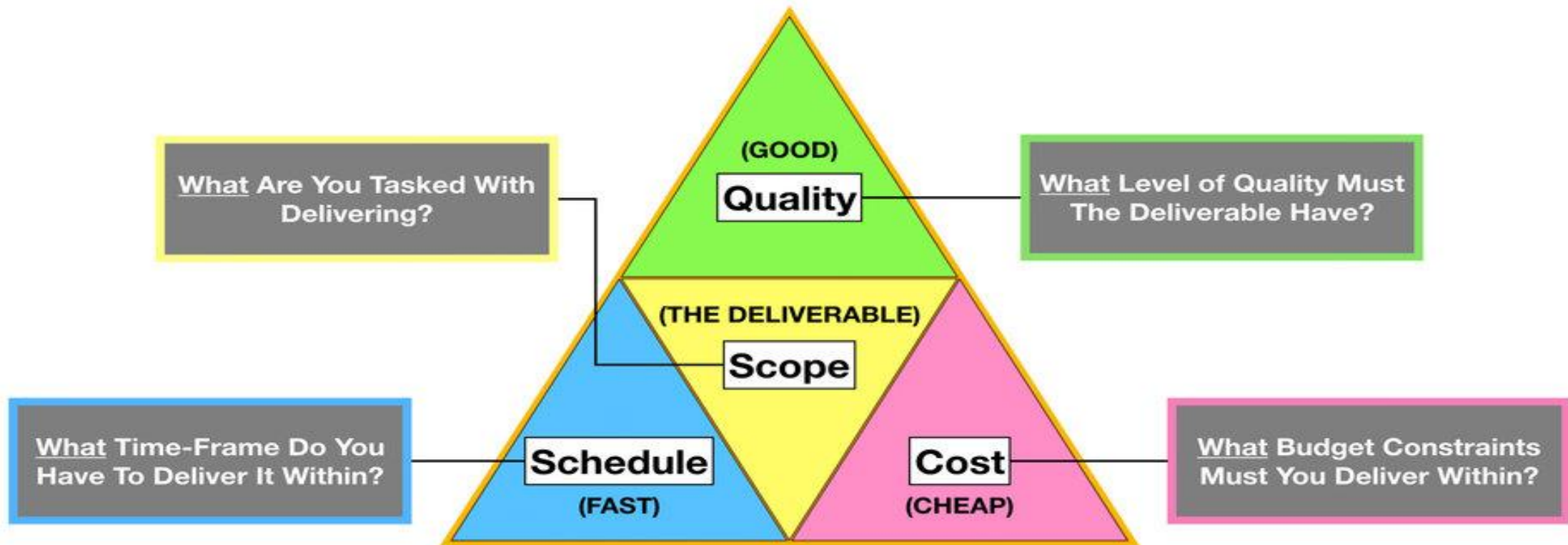


Summary

The Project Management **Golden Triangle**

Scope and the Triple Constraints; i.e., The Four Fundamental “What’s” of Every Project

The **PM**
Blueprint



Be ready for the self- Assessment

**SELF
ASSESSMENT**



I feel confident! I can do it on my own.



I feel okay. I need a bit of help.



I do not know what to do. I need help.



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Thank You



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