Excerpt – for demonstration purposes only

Your Guide to Passing the
PMP® Exam

October 2016
(for the PMP exam from 12 Jan. 2016 on)
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PMI®—the Project Management Institute—did not participate in developing this document but has reviewed it during a quality audit in July 2011.

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1. People

Who Contributed to this Document and the Supplementary Materials?

Project Management

Antje Lehmann-Benz, M.A., PMP, has managed the project of developing this handout. In addition, she contributed as co-author and editor. Her experience includes the contribution to an Intranet-based PMIS* of a major electronic company as well as online editing for newspapers and magazines. She has served as a volunteer for various publishing and marketing activities in the PMI Southern Germany Chapter.

Her most valuable contribution to this document was to organize the development process, to ensure consistency and understandability for a worldwide audience and to ensure that feedback from different sources is utilized to improve the document.

Authoring

Oliver F. Lehmann, M.Sc., PMP, is the principal author of this seminar handout. He had actively managed projects for over 12 years before he started as a trainer in 1995. Since 2002, he has served the PMI Munich Chapter and the PMI Troubled Projects SIG in various positions as a board member.

Oliver worked from 2004 to 2006 as a contributor for PMI’s magazine *PM Network*, for which he wrote monthly editorials containing analyses of troubled projects somewhere around the world. He is president of the *PMI Southern Germany Chapter e.V.*

* PMIS: Project Management Information System
Herbert Gonder, M.Sc., PMP, is the Past President of the PMI Munich Chapter and has been President of the PMI Munich Chapter from January 2007 to April 2013. He has decades of experience in international project management with a focus on IT projects. He is also a seasoned project management trainer and reviewed the document from the perspective of a person who will give the seminar in a classroom.

His input strongly helped make the document more coherent and ensure a tight link to reality.

**Reviewing**

Don James, PMP, is a Principal Consultant at PMO To Go LLC and an adjunct professor of project management at Lone Star College in Tomball, Texas. Don has extensive experience in product development management and software development in all phases of energy industries.

Don’s background further encompasses major projects in the energy and real estate industries as well as international and government contracts. Don adds the view of the native speaker to the document.

Geraldine Mongold, PMP, is an Associate Consultant at PMO To Go LLC. She has a background in IT and marketing and serves as a volunteer with the PMI Oklahoma City Chapter.

Geraldine served nine years in the US Army as a German linguist, intelligence analyst, and platoon sergeant. Her project management experience encompasses custom software development, web site design, strategic marketing, and educational projects. She has expertise in manufacturing, construction, service, and non-profit organizations.
2. Introduction

You are on the way to becoming a *Project Management Professional (PMP)* credential holder? Congratulations, this is a very good decision for yourself and a *quick-win decision* for the organization you are working for, as you will definitely see in the near future.

Image 2-1: Steps of development which individuals often go through on the way to become a professional project manager. The PMP exam is most helpful to accompany you on the last section.
The Value of the PMP Credential

Experience shows that holding a PMP credential increases the value of a person for the organization where they are working by an average of 25%, over a very short period of time. How so?

- **Exam preparation includes deep reflection.**
  Take some time to contemplate your role as a project manager and the helpful tools, techniques, and organizational skills. This will positively change the way you manage projects.

- **Your standing in discussions and meetings will improve.**
  Managers, consultants, contractors and other stakeholders will more likely accept you as a professional and listen to what you have to say.

- **If you are in internal projects: Your true competitor is the external provider.**
  They are doing a lot to create project business and your business unit must cope with them.

- **If you are in customer projects under contract: It will become easier to win the interesting bids.**
  Low-margin and high-risk contract awards are much easier to obtain, but honestly—wouldn’t it be much better to leave them to the competition and focus on the attractive business while your competitors are busy fixing problems?

- **In customer projects, you want to win the bid and the project.**
  Winning the bid is not enough. It is your job to finish the project with a happy customer and profit for your own organization. PMP credential holders are better prepared for successful delivery.
Will You Be Able to Finish the Process and Become a PMP Credential Holder?

Why not?

The Instruments

The tools to achieve this big goal are available to you:

- This seminar handout may be helpful for reviewing the seminar contents and drilling down even deeper.
- Your trainer will provide you a resource pack with templates, software, links, source materials etc.
- Your further self-directed studies will be supported by your trainer. The trainer should be the first person to ask when you are feeling lost in your preparation work or during the exam application process.
- If you prefer to learn with books, you will find some references in this document, too.

When Should You Do It?

If your project is in a hot phase, it may be better to wait for things to calm down, but do not wait too long.

It takes most candidates three to eighteen months to go through the process of becoming a PMP credential holder.

Your projects are always in hot phases? In that case, you need the certification even more urgently. It may help you prevent a burn-out or even a damaged health, when you follow proven processes instead of being occupied fixing troubled projects all the time.
On this Document and the Seminar

This document is part of a classroom training program presented to you by a professional trainer.

The amount of knowledge on project management which a candidate must master for successfully passing the exam is quite large, and it is unlikely that a person could memorize all the training contents and all the topics discussed during the seminar.

However, students will find that repetition in form of source reading and mentored, self-directed learning will help recall what has been learned, and the option to validate and verify what was discussed during the classroom training will help burn the topics into the mind so strongly that they will be available during the test situation.
The Application and Preparation Process

The General Process

The following preparation and application process is the most common one and has proven successful in the past:

Becoming a member of PMI, as shown in the diagram, is strongly recommended. This global association of professionals has many resources that are available free of charge and valuable for both, becoming a certified PMP and managing successful projects.

So, after the seminar and preferably after having obtained PMI membership, candidates should plan to spend some time filling in and submitting the application and preparing for the exam.

There is a variety of methods for self-directed learning to choose from. The most important ones are described in this chapter and in chapter 10.
Obtaining PMI Membership

What You Should Know About PMI

Project Management Institute, Inc. (PMI®) was founded in 1969 by 5 members. Today, it is the world’s largest and most important association regarding project management. PMI is a professional association, which means that membership is limited to individuals only.

The institute is financed through fees and other contributions of its members and various other sources.

Some Data About PMI

PMI is an association built by professionals:

<table>
<thead>
<tr>
<th>Description</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of foundation:</td>
<td>1969</td>
</tr>
<tr>
<td>Founding members:</td>
<td>5</td>
</tr>
<tr>
<td>Membership:</td>
<td>477,573*</td>
</tr>
<tr>
<td>Membership type:</td>
<td>Individuals only</td>
</tr>
<tr>
<td>Countries with members:</td>
<td>210*</td>
</tr>
</tbody>
</table>

PMI maintains 293 chapters (Chartered regional associations)

* Source: Internal PMI communications; numbers per 08/2016
PMI has members all around the world:

![Image 2-3: PMI — Worldwide distribution of PMI members](image)

PMI is domiciled in Newtown Square, PA, USA. Worldwide locations:

![Image 2-4: Worldwide locations of PMI offices](image)
PMI’s Global Executive Council members are organizations that appreciate PMI as a strategic affiliation.

<table>
<thead>
<tr>
<th>AB Volvo</th>
<th>Deloitte US</th>
<th>Microsoft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accenture</td>
<td>Deutsche Bank</td>
<td>NANA Development Corporation</td>
</tr>
<tr>
<td>Adobe Systems</td>
<td>du Telecom (EITC)</td>
<td>NASA</td>
</tr>
<tr>
<td>Airbus Group</td>
<td>DuPont Pioneer</td>
<td>Nisource, Inc.</td>
</tr>
<tr>
<td>Aon Hewitt</td>
<td>EMC Corporation</td>
<td>Oil and Natural Gas Corp., Ltd. (ONGC)</td>
</tr>
<tr>
<td>Australia Defence Materiel Org. (DMO)</td>
<td>Engineers India Limited</td>
<td>Oracle</td>
</tr>
<tr>
<td>BAE Systems</td>
<td>Entel</td>
<td>Optum Technology</td>
</tr>
<tr>
<td>Barclays</td>
<td>Ericsson</td>
<td>Procter &amp; Gamble</td>
</tr>
<tr>
<td>Barrick Gold Corporation</td>
<td>ExxonMobil</td>
<td>Premera Blue Cross Blue Shield</td>
</tr>
<tr>
<td>BASF</td>
<td>Fluor</td>
<td>PriceWaterhouse Coopers</td>
</tr>
<tr>
<td>Bill &amp; Melinda Gates Foundation</td>
<td>Fujitsu</td>
<td>Rio Tinto</td>
</tr>
<tr>
<td>Boeing</td>
<td>GE Energy</td>
<td>Siemens</td>
</tr>
<tr>
<td>Booz Allen Hamilton</td>
<td>GMR Group</td>
<td>Roads and Transport Authority (RTA)</td>
</tr>
<tr>
<td>Bosch Group</td>
<td>Hewlett-Packard</td>
<td>SAP</td>
</tr>
<tr>
<td>BP</td>
<td>Huawei Technologies</td>
<td>Saudi Telecom Company (STC)</td>
</tr>
<tr>
<td>Burns &amp; McDonnell</td>
<td>IBM Global Business Services</td>
<td>Siemens</td>
</tr>
<tr>
<td>CareFirst</td>
<td>ICF International</td>
<td>TD Bank</td>
</tr>
<tr>
<td>Caterpillar, Inc.</td>
<td>IIL</td>
<td>Thomson Reuters - IP &amp; Science</td>
</tr>
<tr>
<td>China National Offshore Oil Corp.</td>
<td>Indra</td>
<td>Thomson Reuters - Technology</td>
</tr>
<tr>
<td>CLP Engineering</td>
<td>KPMG International</td>
<td>Verizon</td>
</tr>
<tr>
<td>Corporate Education Group</td>
<td>Larsen &amp; Toubro Limited</td>
<td>Wärtsila</td>
</tr>
<tr>
<td>CSC</td>
<td>Lawrence Livermore Nat. Lab.</td>
<td>Wells Fargo</td>
</tr>
<tr>
<td>Deere &amp; Company</td>
<td>Mayo Clinic</td>
<td>Wolters Kluwer</td>
</tr>
<tr>
<td>Deloitte UK</td>
<td>Michelin</td>
<td>ZTE</td>
</tr>
</tbody>
</table>

Image 2-5: The member organizations of PMI’s Global Executive Council (per 06/2015)

PMI’s Member Benefits

- Discounts for global congresses and leadership meetings
- Online resources for members
  - Publications
  - Free online library
- Research
  - Free download of globally accepted standards
- Reduced fees for certification and other benefits
Membership Fees

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First year fee:</td>
<td>$139</td>
</tr>
<tr>
<td>Annual fee:</td>
<td>$129</td>
</tr>
<tr>
<td>Annual Chapter fees:</td>
<td>$0 to $55</td>
</tr>
</tbody>
</table>

Please find more information on PMI membership at [www.pmi.org](http://www.pmi.org) — Membership.

PMI members receive a $150 discount on PMP examination fees. So the first year fee and even an additional annual fee (for most of the components) are paid for by this benefit.

Looking at the advantages members get, one should clearly obtain PMI membership before submitting the application.

Please note: If you submit your exam application to PMI and after that become a PMI member, PMI will not reimburse the discount to you. You should therefore make sure that you become a member first, and then formally submit your exam application data.
Applying for Membership

Membership application for PMI and its components is done online at
http://membership.pmi.org/apply?r=https://my.pmi.org&t=Individual:

It is most likely that you will apply for *Individual Membership*, but there are also membership options (some at reduced rates) for students, retirees, and groups.

When you are going through the PMI membership application process, you also have the chance to become a member of a PMI component, i.e. a chapter or community of practice.

PMI membership is valid for one year and must be actively renewed each year. Members receive a discount on the exam fee, but membership must be active at the moment of submission of the application. PMI does not reimburse the discount if the membership is obtained after the submission.

Please note: The registration as a user on www.pmi.org is separate from formal membership at PMI.
The Exam Application

Applying Online

There are two things you should do on PMI’s website in order to apply for the PMP examination:

- Register as a user and follow the steps to apply online. *
- Download the PMP Handbook† with detailed descriptions of the various steps necessary to go for the PMP exam.

The online application works similar to a web shop: You can collect data over a period of many weeks, or even months, and enter them online without formally submitting them.

The application will guide the candidate through this process and keep the person aware which requirements have already been met and which are still open.

When all requirements are fulfilled, the application will allow formal submission of the data to PMI. Up to this point, the process has been free of charge.

During the online application, candidates have to fill in

- Education
- Experience
  by breaking down project management experience into the five performance domains defined by the PMP Examination Content Outline (see p. 30), assign numbers for the hours spent in each project, and name a supervisor—sponsor, customer, functional manager etc.—to allow for verification in case of an audit.

---

* There are application forms on www.pmi.org which can be printed out, manually filled in and posted to PMI. You should avoid using these whenever possible and use the online application which is much faster and does all the calculations for you.

The Breakdown of Experience in the Online Application

Hours spent for the following performance domains must be filled in for each verified project. Of all verified projects, at least one has to include hours spent with initiating, planning etc.

<table>
<thead>
<tr>
<th>Project Management Performance Domains and Tasks</th>
<th>Hours spent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Domain I: Initiating the Project</strong></td>
<td></td>
</tr>
<tr>
<td>Defining the project scope and obtaining approval from stakeholders. For example: Perform project assessment; define the high-level scope of the project; perform key stakeholder analysis; identify and document high-level risks, assumptions, and constraints; develop and obtain approval for the project charter.</td>
<td></td>
</tr>
<tr>
<td><strong>Domain II: Planning the Project</strong></td>
<td></td>
</tr>
<tr>
<td>Preparing the project plan and developing the work breakdown structure (WBS). For example: Assess detailed project requirements, constraints, and assumptions with stakeholders; create the work breakdown structure; develop a project schedule; develop budget, human resource management, communication, procurement, quality management, change management, and risk management plans; present the project plan to the key stakeholders; conduct a kick-off meeting.</td>
<td></td>
</tr>
<tr>
<td><strong>Domain III: Executing the Project</strong></td>
<td></td>
</tr>
<tr>
<td>Performing the work necessary to achieve the stated objectives of the project. For example: Obtain and manage project resources; execute the tasks as defined in the project plan; implement the quality management plan; implement approved changes according to the change management plan; implement approved actions by following the risk management plan; maximize team performance.</td>
<td></td>
</tr>
<tr>
<td><strong>Domain IV: Controlling and Monitoring the Project</strong></td>
<td></td>
</tr>
<tr>
<td>Monitoring project progress, managing change and risk, and communicating project status. For example: Measure project performance using appropriate tools and techniques; manage changes to the project scope, schedule, and costs; ensure that project deliverables conform to the quality standards; update the risk register and risk response plan; assess corrective actions on the issue register; communicate project status to stakeholders.</td>
<td></td>
</tr>
<tr>
<td><strong>Domain V: Closing the Project</strong></td>
<td></td>
</tr>
<tr>
<td>Finalizing all project activities, archiving documents, obtaining acceptance for deliverables, and communicating project closure. For example: Distribute the final project report; collate lessons learned; archive project documents and materials; measure customer satisfaction.</td>
<td></td>
</tr>
</tbody>
</table>

Additionally, the text field labeled “Summarize” should be filled in according to the following structure:

- A brief, one-sentenced project objective
- Project deliverables summarized by process groups:

---

Since 31 August 2011, experience hours have to be specified for each domain only, not for each task like in the past.
Initiating
Planning
Executing
Monitoring and Controlling
Closing

• A brief, one-sentence project outcome

**Prerequisites**

<table>
<thead>
<tr>
<th>Category 1</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum education attained</td>
<td>High school degree (or global equivalent)</td>
</tr>
<tr>
<td>PM education / training</td>
<td></td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum number of hours</td>
<td>7.500 h</td>
</tr>
<tr>
<td>Minimum time spanned</td>
<td>60 Months</td>
</tr>
<tr>
<td>Period prior to application</td>
<td>8 Years</td>
</tr>
<tr>
<td>Must cover the 5 process groups (= performance domains): Initiating, Planning, Executing, Monitoring + Controlling, Closing</td>
<td></td>
</tr>
<tr>
<td>Must be collected Leading and Directing of a Project</td>
<td></td>
</tr>
</tbody>
</table>

Before becoming eligible for the certification exam, candidates must meet certain prerequisites:

• Category 1:
  Candidates are holding a high school diploma or an international equivalent

• Category 2:
  Candidates are holding a baccalaureate degree or an international equivalent

Participants must also verify their experience:

• Category 1:
  Candidates must have experience of at least 7,500 hrs. in project management (leading and directing), distributed over a period of at least 60 months (without overlapping) within the last eight years.
• Category 2:
  Candidates must have experience of at least 4,500 hrs. in leading and directing, distributed over a period of at least 36 months (without overlapping) within the last eight years.

How are experience hours and months of experience gathered?

• Experience months are calculated only once. If two or more projects were run in the same month, the month will still be calculated as one month.

• All hours collected can be used, even if this happened during overlapping times.

<table>
<thead>
<tr>
<th>Experience gathered during year</th>
<th>Hours</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 1</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>Project 2</td>
<td>1,000</td>
<td>6</td>
</tr>
<tr>
<td>Project 3</td>
<td>80</td>
<td>4</td>
</tr>
<tr>
<td>(\text{\textit{\text{\text{Overlapping time}}}}))</td>
<td>-3</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,180</td>
<td>11</td>
</tr>
</tbody>
</table>

Image 2-7: Dealing with overlapping and time gaps when verifying experience.
The experience must include *leading and directing* and must cover experience gathered in all five process groups:

- Initiating
- Planning
- Executing
- Monitoring & Controlling
- Closing

Candidates have to provide documents proving the stated education in case of an audit. PMI demands a statement of a supervisor (a higher-ranking reference person) in order to authenticate the statements made related to project management experience.

Another requirement is proof for 35 training hours ("Contact hours of project management education"). These can either be gathered in a preparation seminar or taken from another seminar with project management contents.

The training must include each of the 10 knowledge areas of project management:

- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resource Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management
- Project Stakeholder Management

The certificate of attendance of this training must also be kept in case of an audit.

* Each process group must have occurred at least in one of the projects used to verify the experience.
Language Aids

The PMP exam is carried out in English language. It can be ordered with additional language aids (translations in addition to the original English questions) in the following languages:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Brazilian Portuguese</th>
<th>Chinese (Simplified + traditional)</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>German</td>
<td>Hebrew</td>
<td>Italian</td>
<td>Japanese</td>
</tr>
<tr>
<td>Korean</td>
<td>Russian</td>
<td>Spanish</td>
<td>Turkish</td>
</tr>
</tbody>
</table>

Processing your Application

Once you have submitted your application to PMI, and PMI’s information needs are satisfied, PMI will send you a letter asking you to make your payment.

Then, PMI will decide whether you will need to undergo an application audit. Approximately 10% of the candidates for PMP examination are selected to undergo an audit.¹

In such case, the data given to PMI online are put into a PDF document to be downloaded and printed by the candidate. The candidate will then have to obtain the signatures by the supervisors named in the application as verification that the data submitted in the application are correct.

Letter of Eligibility

A note by PMI that a candidate has become eligible to sit for the PMP exam is sent to accepted candidates. This message includes all information needed for the booking at Prometric (www.prometric.com), PMI’s partner for the actual carrying out of the examination.

¹ This number may be subject to change without notification.
The eligibility is valid for one year, and you have maximum three attempts during that time to pass the test. If you fail the third attempt, you have to wait another year and would then be able to restart the entire application process—of course with new costs.

### Fees

The following list shows the fees applicable for PMP exam per October 2016:

<table>
<thead>
<tr>
<th>Project Management Professional (PMP) – Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer based test (CBT)</td>
</tr>
<tr>
<td>Exam</td>
</tr>
<tr>
<td>Members $405</td>
</tr>
<tr>
<td>Nonmembers $555</td>
</tr>
<tr>
<td>Re-examination</td>
</tr>
<tr>
<td>Members $275</td>
</tr>
<tr>
<td>Nonmembers $375</td>
</tr>
<tr>
<td>Paper based test (PBT, rarely offered)</td>
</tr>
<tr>
<td>Exam</td>
</tr>
<tr>
<td>Members $250</td>
</tr>
<tr>
<td>Nonmembers $400</td>
</tr>
<tr>
<td>Re-examination</td>
</tr>
<tr>
<td>Members $150</td>
</tr>
<tr>
<td>Nonmembers $300</td>
</tr>
<tr>
<td>Renewal (3-years CCR)</td>
</tr>
<tr>
<td>Members: $60</td>
</tr>
<tr>
<td>Nonmembers: $150</td>
</tr>
</tbody>
</table>

*Image 2-8: Fees for computer and paper/pencil tests.*

### The Examination in General

PMP stands for *Project Management Professional*. It is the most important credential in the field of project management worldwide.

There are PMP-certified individuals in over 170 countries, and the number is growing quickly.

In the United States, the PMP certification has existed since 1984, when it started with the first 43 certified project managers.

* Source: PMP Credential Handbook. Paper-based exams must be specially organized and are rarely offered
In 1998, the certification was made available for other countries as well.

In 1999, the Certification Program Department was the first authority organizing examinations and issuing certifications to be certified according to ISO 9001.

PMI’s Project Management Professional (PMP) certification process is also accredited to ISO/IEC 17024.

This should be seen as a reflection of PMI’s efforts to guarantee a high level of quality regarding the organization of the exam.

### The Increase in Numbers of PMP Certified Individuals

![Image 2-9: Growth of PMP credential holders since 1995](image)

Before 1998, the PMP certificate was limited to North America. At that time, the number of PMP credential holders remained fairly stable at less than 5,000 persons.

In 1998, PMI decided to offer the PMP credential on an international basis. The number of certified individuals has shown a steady growth since that year; the rate is currently at app. 4,000 to 6,000 newly certified persons per month.
And how are PMP credential holders distributed in the world?

Image 2-10: Top ten nations with certified PMP credential holders

The Foundations for the Test

The Basic Documents

The two single most important documents one should know for passing the PMP exam are:

- The *Project Management Professional (PMP) Examination Content Outline*
- The *Guide to the Project Management Body of Knowledge (PMBOK® Guide)—5th Edition*

* Source: Data provided by PMI
Both documents are available
- for purchase at [www.pmi.org](http://www.pmi.org)
- in major book stores

## The PMP® Examination Content Outline

The syllabus—the test content and the true basis of the PMP certification test—is the *PMP Examination Content Outline*.

All exam items, i.e. questions with four answering options each, are written against the tasks and the related skills and knowledge described in this document.

The document has been published in June 2015 and is effective beginning January 2016. It organizes the test contents into 5 *performance domains*:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Title</th>
<th># of tasks</th>
<th>% of all scoring items</th>
<th>Items in the exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Initiating the project</td>
<td>8</td>
<td>13%</td>
<td>23</td>
</tr>
<tr>
<td>II</td>
<td>Planning the project</td>
<td>13</td>
<td>24%</td>
<td>42</td>
</tr>
<tr>
<td>III</td>
<td>Executing the project</td>
<td>7</td>
<td>31%</td>
<td>54</td>
</tr>
<tr>
<td>IV</td>
<td>Monitoring and controlling the project</td>
<td>7</td>
<td>25%</td>
<td>44</td>
</tr>
<tr>
<td>V</td>
<td>Closing the project</td>
<td>7</td>
<td>7%</td>
<td>12</td>
</tr>
</tbody>
</table>

*Plus 25 non-scoring pre-test questions* 25

**Total questions:** 200
Guideline for the Seminar

This seminar handout and the related presentation slides tightly follow the PMP Examination Content Outline.

They are written in the order of domains and tasks specified in this document and explain methodologies, keywords, and general concepts mentioned in it to ensure that students are well-prepared for all exam questions.

The last section of the PMP Examination Content Outline is named “Cross-cutting Knowledge and Skills” and is relevant across all five domains. In the seminar, these items are discussed as part of domain knowledge. Active listening, for instance, is discussed in “Domain 3 – Executing the Project”; Task 6.

The PMBOK® Guide

The History of this Central PMI Standard

1983 PMI Ethics, Standards, and Accreditation Report (ESA, mainly developed by Matthew H. Pary) — the Standards section was the first Project Management Body Of Knowledge, discussing six project management functions: human resources, cost, time, communications, scope, and quality management.

1988 Revised PMBOK, changing the terminology from functions to knowledge areas, adding project management framework (Linn Stukenbrok) and project procurement management (Max Wideman)

1996 PMBOK® Guide (Bill Duncan), adding knowledge areas project integration management and project risk management.

1998 PMI accredited as Standards Developer by ANSI

2000 PMBOK® Guide 2000

2004 PMBOK® Guide 3rd Edition


Over 4 million distributed copies* (plus an unknown number of unauthorized copies of pdf files) in 12 languages make the *PMBOK® Guide* the de-facto world standard in project management.

**Who Wrote It?**

"[...] The knowledge contained in this standard evolved from the recognized good practices of project management practitioners who contributed to the standard."  (*PMBOK® Guide*, page 1)

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* Source: PMI Today, April 2013
The *PMBOK® Guide* has been written by hundreds of practitioners as a document of consensus.

This has some benefits, but also some disadvantages:

**+ The document is relevant for project management practice.**
In most of its contents, the *PMBOK® Guide* is not an academic document. Sometimes, a reader may find a piece of text in the document not relevant for the person’s own practice but this means only that methods described in this text are not applied by the person or may be untypical for the person’s home industry or employing organization. The methods may still be valid and applied in other project management situations.

**— The document is sometimes inconsistent.**
Not all contradictions in terminology, concepts, opinions and priorities between authors have been addressed and resolved. While the 5th Edition resolved some inconsistencies from the previous version, it also introduced some new ones. It is a trainer’s job to help students identify these errors and overcome potential confusion.

**Why Is the *PMBOK® Guide* Relevant for the Exam?**

It is a common misconception that the *PMBOK® Guide* is the syllabus for the PMP exam. As we have seen, the *PMP® Examination Content Outline* serves that purpose.

A statement explaining the true function of the *PMBOK® Guide* (and other documents) can be found in the *PMP Handbook* (see above) on page 8:

---

**Item development**

“PMP examination questions

- Are developed and independently validated by global work groups of PMP credential holders
- Are referenced to at least one current project management source
- [...]  
- Satisfy the test specifications of the Project Management Professional Content Outline”

(PMP Handbook)
The exam questions are developed and reviewed by groups of PMPs who are invited to item writing or item reviewing sessions by PMI.*

Each item (= a question with four answering options) will undergo several review steps. Item writers will have to defend their questions and answers, and this is done by placing at least one link to a reference in a book or another important document that is regarded as part of the Project Management Body of Knowledge.

Most—but not all!—references are pointing into the PMBOK® Guide.

The PMBOK® Guide is the single most important reference to validate the correctness of exam questions and the related right/wrong answers. Find more information in chapter 3.

More on Exam Item Writing

The development of new questions and answering options, so-called items, is an ongoing process. New items are written in regular item writing sessions, and older items are sometimes removed from the exam.

This ongoing process has a consequence that the test may to some degree change its character over time. It is a trainer’s job to use examinees’ feedback to stay ahead with these changes.

* One pre-requisite to join these sessions is that the person is not active in PMP exam preparation business. Your trainer is therefore not allowed to be present during these meetings. The same applies to authors of text books preparing for the PMP exam.
Test Centers

The standard procedure for the exam is the computer-based test at one of the Prometric Testing Centers (PTCs), which are distributed all over the world.

Image 2-12: A typical computer testing center

As an alternative, paper and pencil tests are offered at some places (e.g. in northern Switzerland by the PMI Swiss Chapter).

In both cases, candidates are required to contact Prometric after receipt of the letter of eligibility and to book their exam session on www.prometric.com.

The Testing Process

Computer Tests

To locate a testing center and get more information, PMI credentials can be found at www.prometric.com in the menu section Locate A Test Center – PMI-Project Management Institute (alphabetic Search or search term-based).
Once the exam has been scheduled, you will be required to be at the testing center 30 minutes early. In the testing center, you will have to provide an identification document with a picture to verify that you are actually the candidate in person.

You are not allowed to bring books, PCs, drinks, bags, scarves, and many other things into the testing room. You will be given the opportunity to store your belongings outside of the room, along with specific instructions. Everything you will be allowed to take into the room will be provided by the test center, such as scribbling paper, pencils, a calculator, and ear plugs for better concentration. See the *PMP Handbook*, pages 19ff for more details on requirements and exclusions during the testing procedure. Please be aware that procedures will appear quite strict, according to requirements to ensure high testing quality, and that you might be going through these procedures along with other exam candidates, who are not necessarily taking a PMI certification.

Before the test begins, you will get a 15 minutes tutorial with two non-scoring questions. The test begins when you click “Finish tutorial” or when the time for the tutorial is over.

The test will consist of 200 questions, of which 175 actually score. 25 are new questions tested for future use. You will not be able to identify these 25 questions.

You will see four answering options for each question, only one answer of which is correct. Questions with false answers and unanswered questions are dealt with in the same way. Therefore, when you are going through the questions for the first time, make sure you select an answer for each question including those where you would have to guess. You can mark single items for later review.

Additional information including graphics, tables or the language aids are opened on a click in a separate window.

A timer on the screen counts down the 4 hours, so that you know how much time is left.
The following screen shot of exam simulators illustrates the testing application:

Image 2-13: Screen shot of an exam simulation software. The real test software looks similar.

**Paper/Pencil Tests**

The other option for the test is PBT, paper-based testing, as described in the *PMP Handbook* on page 16. For more information on PBT, please send an email to oliver@oliverlehmann.com.

**The Passing Score...**

...is unfortunately kept secret by PMI. This decision was made in early 2006.

*The copyright of this sample question is owned by the author of this handout.*
You may find some statements on that in literature or on the Internet, stating numbers between 61% and 81%, but these numbers have purely historical value.

Far more important for candidates anyway: How many correct answers should you aim to have in prep tests?

- In more simple tests—i.e. those that are very tightly linked to the *PMBOK® Guide*, you should aim for a score of 82%+.
- In more difficult collections of sample questions, where a major part of the items has not been taken from *PMBOK® Guide* but is linked to other sources, you should aim for a score of 75%+.

If you achieve these numbers during your preparation, it is very likely that you will pass the test on the first attempt.

### Score Report

At the end of the exam, you will immediately get your result (computer test only) stating whether you have passed or not, and a qualitative score report to identify your weak spots in the exam—which of course are not necessarily your weak spots in real life, too.

### Further recommendation

It is advisable for candidates to have their eyes checked prior to the exam / to make sure their glasses are still adjusted correctly. A distorted view makes reading slow and causes even more stress for the eyes and the brain while trying to master a pretty demanding 4-hours test.

### Staying Certified

If you have passed the test, you will be allowed to put the *PMP* behind your name on business cards etc. for the next three years.

In order to renew the certificate after that time, a PMP credential holder has to earn 60 PDUs (*professional development units*) in a *continuous certification requirements* (CCR) program within the period of three years.
These PDUs can be obtained by participating in education events, giving lectures, reading literature, organizing and developing seminars etc.* Thus, it is not necessary to pass another exam.

PDUs can be conveniently submitted online within a certificate holder’s personal PDU dashboard at ccrs.pmi.org.

More details are described in the PMP Handbook pages 24 through 29.

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**About the Seminar and this Documentation, Disclaimer**

The seminar itself and the seminar documentation are not a substitute for the book *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* that should still be read. The book is the central document that is also the most important reference used for developing the exam questions; each examinee must be deeply familiar with this document. Versions in several different languages have also been published.

The exam questions have been written according to the *PMP Examination Content Outline*, which in turn has been derived from the *role delineation study*, a regularly updated survey about the expectations project managers have to meet. The *PMBOK® Guide* and other books are then used to verify that the exam questions and default answers comply with the actual standard of knowledge and branch discussions.

PMI’s exam software selects the 200 exam questions out of a much larger general catalog of questions. It is strictly prohibited for test participants

- to try to find out about the wording or the content of other questions,
- to publish the wording and detailed content of questions that are part of the question catalog and therefore may be asked during the test.

---

* PDU-relevant activities are listed here: [http://www.pmi.org/certifications/maintain/earn-pdus](http://www.pmi.org/certifications/maintain/earn-pdus).
The aim of this seminar is to create a basis of knowledge and understanding that is wide enough so that as many exam questions as possible can be answered correctly in order to pass the test. It would be an unintentional coincidence if the content or some sample questions of the seminar were identical to the exam questions.

The actual exam questions may not reflect all the content learned during this seminar. Likewise, there may also be some exam questions testing knowledge that has not been discussed during the seminar.

It cannot be guaranteed that the participants will pass the examination, of course. However, by preparing thoroughly for the exam the chances of passing it can be enhanced.

This seminar should be the central element in order to prepare the participants for the exam.

This seminar handout and documentation have been worked out based on the assumption that the participants understand the main concepts of modern project management. Our target group is not the novice beginning to understand what a project is or what the tasks of a project manager are, but the professional who already possesses all the knowledge and experience necessary for being admitted to the exam.

As to the content, the question is not which methodical approach is more appropriate for a certain problem. Instead, during the seminar we focus on developing an understanding of the various concepts, methods and technical terms that are considered good practice for most projects most of the time and may be needed for passing the exam.
What Should You Do After the Seminar?

**Study the PMBOK® Guide**

The *Guide to the Project Management Body of Knowledge* is the most important single reference for PMP exam questions. What this exactly means is described in the next chapter.

You should make sure that you have a good understanding of this central document, including:

- The basic principles of project management as they are described mainly in the first section
- The 47 processes of project management described in sections II and III and how they are linked by
  - Process groups
  - Knowledge areas
  - Deliverables which can be among the outputs of one process and the inputs of another one, thus linking the two processes
- The tools and techniques applied
- The terminology mainly defined in the first two sections and in the glossary

**Perform Mentored, Self-Directed Learning**

Plan for app. 100 hrs. in order to deepen the learned contents and to become truly familiar with the methods and the terminology.

When you are preparing for the PMP exam, there are several options for you to consider:

- Reading this handout again, using the references given in this document as further reads
- Working with materials provided by the trainer
- Working through free and commercial sample questions
• Using additional PMI Global Standards
• Studying additional prep literature

Recommendation: Use a combination of two or three of these options—the one which meets your personal style of learning—thus, your learning channels.

### Working with Materials Provided by the Trainer

The first option includes re-reading this document as well as studying other materials that will be handed out during the seminar to help you get an overview of what you will be expected to know in the exam.

Materials provided by the trainer include:

• Templates for important documents of project management
• Worksheets for various calculation methods used in project management
• Software tools which support some methods of project management
• Links, source materials, and others

### Working Through Free and Commercial Sample Questions

Sample questions are a great way to assess your current level of knowledge and find the gaps that still need to be closed. 75 free sample questions are available at [www.oliverlehmann.com/PMP-self-test/75-free-questions.htm](http://www.oliverlehmann.com/PMP-self-test/75-free-questions.htm).

A substantial collection of links to various sources providing other sample questions, some of them free, can be found on the same page at [www.oliverlehmann.com/PMP-self-test/75-free-questions.htm#providers_](http://www.oliverlehmann.com/PMP-self-test/75-free-questions.htm#providers_).

The last link is especially helpful as the actual sample questions have been written by a big number of *item writers* with a natural diversity regarding terminology, concepts, opinions, question styles, priorities and so on.

The best way to simulate this diversity is to have a diverse source of sample questions, too.
Many of these free offerings have been developed to sell commercial collections of prep questions. If you find some of them to be good value for the money, you may want to buy them as well.

Using additional PMI Standards

Some additional standards which members can download free of charge at www.pmi.org may be interesting for exam preparation.

Image 2-14: PMI Practice Standards & Framework page

*Practice Standards* supplement the *PMBOK® Guide*, demonstrating how methods of project management can be applied in practice:

- Project Risk Management Practice Standard
- Practice Standard for Earned Value Management Second Edition
- Project Configuration Management
- Work Breakdown Structure Practice Standard
- Practice Standard for Scheduling
- Practice Standard for Project Estimating
- Project Management Competency Development
The following foundational standards complement the *PMBOK® Guide* by describing disciplines that are related to project management:

- Standard for Program management—Third edition
- Standard for Portfolio management—Third Edition
- Organizational project management maturity model (OPM3®) Third Edition

The following Practice Guides give further orientation with real-life methodology application:

- Requirements Management
- Governance of Portfolios, Programs, and Projects
- Business Analysis Practice Guide
- Implementing Organizational Project Management
- Navigating Complexity
- Managing Change in Organizations

## Studying Additional Prep Literature

In addition, it will be helpful for you to buy specific reading material. The following PMP exam preparation books are available:

- **PMP Exam Prep, Eighth Edition: Rita’s Course in a Book for Passing the PMP Exam** by Rita Mulcahy
  Rita Mulcahy appears like a good friend who will take your hand and lead you right into the exam, well-structured and informative.

- **The PMP® Exam, Fifth Edition: How to Pass on Your First Try** by Andy Crowe
  Similarly well-structured but more factually written than Rita’s book.

- **Head First PMP®, 3rd Edition: A Brain-Friendly Guide to Passing the Project Management Professional Exam** by Jennifer Greene and Andrew Stellman
  Illustrated, vivid, and playful study guide, part of the O’Reilly Head First series.

  Text-heavy, almost scientific approach.
Excerpt – for demonstration purposes only

  Uses PMP prep questions to explain the topics of the exam. A powerful approach for students who have already passed their basic training.

More books are available in book stores. When buying literature, you should be careful not to buy prep literature referring to older versions of the exam. Make sure that the publishing date is not before Summer 2015.

Also, be aware of the fact that most authors do not mirror PMI’s approach that each exam item (=question and answer combination) references to at least one standard source of project management and has undergone a rigorous multi-step review process. You may therefore find some prep items in these books that might almost sound a bit strange.

**Using Webcasts**

Use further opportunities for learning, such as listening to Cornelius Fichtner’s PMPrep cast ([www.PMPrepcast.com](http://www.PMPrepcast.com)). This way, you can study using your mp3 player or car radio while you are traveling.

**Using Apps**

The [AppStore](https), [Google Play](https), [Windows Store](https) or otherwise named download site, where you can order apps for your smartphone or tablet PC, also has a number of self-study and testing software products available. Most of them are rather inexpensive.
The following links lead to the full versions of the apps that we support. They also have free test versions with 30 questions each.

- iPhone: https://itunes.apple.com/us/app/pmp-exam-free-oliver-lehmann/id981704212

Image 2-15: Apps as helpers for learning and preparation
**Forming a Study Group**

Join others that are in the same situation and build a study group. As a group, you may be more efficient and have more fun when studying. A good place to find other candidates who are interested in creating study groups may be your local PMI Chapter.

**Joining the Virtual Study in LinkedIn**

There is a virtual study group in LinkedIn called “I want to be a PMP®”. Here, you will meet more people preparing for the PMP exam, people who have just passed the test (and sometimes those who failed) and others who are happy to help.

Here is the link:

- Link: [http://www.linkedin.com/groups?gid=2356441](http://www.linkedin.com/groups?gid=2356441)

**Some General Tips and Hints for Taking the Exam**

Once you are done studying and ready to take the exam—of course, feeling well-prepared is the best way to reduce stress hormones anyway—here are some more tips for you to consider when taking the test:

- Read each question thoroughly. Really make sure you know what is asked for and do not hurry to answer.
- Be careful with negating questions, which use words like *except, not* and so on. Make sure you understand the concept.*
- Words like *integrate, coordinate, communicate, study*, and similar words as well as their derivatives (*integrative, integration* etc.) are good signals in answers that a statement may be accurate.

* Some providers of sample questions capitalize these words to ensure that they are not overlooked, but this should not be relied upon in the actual exam.
• Words like must, always etc. are more likely a signal of a bad statement. But be careful, things are different in the Professional and social responsibility context:
  - You must always plan for a meeting every other day.
    is probably not a good statement.
  - You must always maintain your professional integrity
    is however a good one.

• If you are unsure about an answer, remember that any unanswered question will score as a wrong one, so that the better option is always to guess than to skip.

• If the question is really difficult: First identify those answers that you can eliminate.
  Then compare the remaining answers again with the question.

• Look for words that could help you make the right choice, like integrate, communicate, inform, comply, require, or for derivatives of these words.

The exam begins with a 15 minutes’ tutorial to make you familiar with the look and feel of the software. You will have to answer 2 non-scoring questions. You will probably need only 2 to 5 minutes’ tutorial time. When you feel confident with the software, don’t finish the tutorial; instead use the scratch paper and pencil given to you and write down formulas you learned during preparation, so that they are in front of you during the test and you will not have to remember them by heart later.

* You may use some exam simulators to get prepared for the special situation during a computer test. None of them is 100% identical with the real test software, but most are fairly similar. Some providers offer trial versions, which can be sufficient for the purpose.
# Downloads and Bookmarks* — a Checklist

The following checklist helps you identify URLs that you should bookmark and documents that you should download so that they are easily available when you need them. Some are available for members only, as previously described:

<table>
<thead>
<tr>
<th>Address</th>
<th>Document resp. purpose</th>
<th>Bookmark or download?</th>
<th>Access for members only?</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.pmi.org/pmbok-guide-standards">http://www.pmi.org/pmbok-guide-standards</a></td>
<td>PMI Standards section (you may download most of them), includes *PMBOK® Guide 5th Edition, PDF version</td>
<td>B/D</td>
<td>Yes</td>
</tr>
<tr>
<td><a href="http://www.pmi.org/certifications">http://www.pmi.org/certifications</a></td>
<td>Application for the PMP exam and other PMI credentials</td>
<td>B</td>
<td>No</td>
</tr>
<tr>
<td><a href="http://www.prometric.com">www.prometric.com</a></td>
<td>Locate a test site</td>
<td>B</td>
<td>No</td>
</tr>
<tr>
<td><a href="http://www.pmi.org/pmbok-guide-standards/lexicon">http://www.pmi.org/pmbok-guide-standards/lexicon</a></td>
<td>Glossary of project management terms and definitions as used by PMI</td>
<td>B</td>
<td>No</td>
</tr>
</tbody>
</table>

* You will find that sometimes, direct input of URLs is not possible, so that you will have to get to the pages by using the links from the main page as described previously.
1. A project manager took over the assignment for a politician’s election campaign. The campaign ran well: A big number of events had been performed on schedule and budget, and commercials in media perfectly communicated the aptitude and leadership of the politician. Nevertheless, the politician lost the election.
   - The project manager is responsible for both the campaign and the negative outcome for the politician.
   - The project manager is not responsible for the campaign and for the negative outcome for the politician.
   - During the initial time of a project, the project objectives need to be defined. The project manager and the team are responsible for accomplishing them.
   - The project manager and the project team are responsible for the campaign but not for the election result.

2. An organization plans to introduce project management in addition to their traditional operations. As a first step it is planned to obtain a software solution for enterprise project management. Using special software for project management
   - can provide a framework for all project management processes in one solution.
   - can help cope with some of the complexities during planning, executing, and monitoring and controlling.
   - can be a substitute for a project management team’s lack of methodological skills and experience.
   - can be a substitute for training and coaching of project management team members.
3. What is true for organizational process assets necessary to successfully complete a project—like standardized processes and procedures, forms and templates, databases and historical information?
   - Organizational process assets should get updated during a project.
   - Organizational process assets should never be modified to fit the project’s distinctiveness.
   - Organizational process assets are always limiting a project manager’s options.
   - Organizational process assets should get updated only during project close-outs.

4. A project manager has to perform a project for an organization and at the same time must do a lot of administrative work. The person gets already overwhelmed by the overall work load and the amount of time needed for meetings, e-mails, negotiations and other kinds of communications.

   In this case all of the following statements are true except:
   - The project manager should build a project management team and delegate project management tasks.
   - Communication problems are secondary as long as the project work is done effectively.
   - The project manager should find a solution to get the administrative work taken off from his/her hands in order to allow concentration on project work.
   - The project manager should demand clear elucidation of the roles and responsibilities assigned to him/her by the organization.
5. Projects performed under contract are different from internal projects in all of the following aspects except

- Project managers running customer projects are often in a strong position inside the performing organization because they are responsible for providing the organization’s revenues.
- Resolving disputes in customer projects may require legal action. Disputes in internal projects are resolved inside the organization.
- Satisfying the stakeholders’ needs and expectations is more imperative for project management teams in customer projects than in internal projects run by an organization for own purposes.
- It is a specific characteristic of projects performed under contract that the progressive elaboration of product requirements needs to be meticulously coordinated with proper contractual project scope definition.

6. A project manager made some realistic estimates of effort and costs necessary to run a customer project which is currently in its pre-award phase. After the customer has signed the contract the project will probably become part of her responsibility.

The sales person in charge with the customer does not agree to the estimates as they would require a price to the customer which would not be competitive.

- The project manager should adapt the estimates to the sales person’s needs to allow cutting the offered price.
- The project manager should adhere to the numbers communicated and not change the estimates.
- The project team should start working on the first project activities to get a feeling what the real effort is which will be demanded by the project.
- A project manager should not deal with any project data before the customer has signed the contract.
7. The company you are working for has identified an opportunity to win new customers by developing a new product and launching it on the market place. The opportunity is a short term market window and it will not be easy to finish a development and marketing project in time.

In this early stage it is not quite clear how the new product precisely will look like in future. What should be the first step?

- A project charter for the project should be developed which includes some objectives and first rough specifications, and which will be detailed and refined during the course of development of the project.

- The company should not hire a project manager and start the project before a detailed feasibility and impact assessment has been made and detailed product specifications have been defined.

- The company should not undergo the pressure situation and leave the market to competition. Projects should only be started for the development of goods that can be clearly identified right at the start.

- The company should assign the project to one of their functional departments to save from having to build a dedicated project team and fully rely on their communication skills.