

# Careers in Project Management



## UNLIMITED HORIZONS

An overview of exciting opportunities within the project management profession

# Mission Statement

By its articles of incorporation, the PMI Educational Foundation is empowered to provide **scholarships** and **fellowships**; endow and establish professorships; assist in establishing degree programs; administer and support student organizations; plus solicit, receive, and expend gifts, legacies, and grants. The PMI Educational Foundation also may assist in educational and research projects; grant and confer awards, citations, or medals; prepare and disseminate educational information; and perform other related activities.

Today, the PMI Educational Foundation, in close cooperation with the Project Management Institute (PMI®), undertakes initiatives that are designed to benefit society and function as a proactive catalyst to:

- foster project management related research and educational initiatives that have global applicability.
- raise awareness of project management in local and global communities.
- introduce and promote the use of project management concepts as life skills.
- recognize leadership in project management.
- support academic excellence in project management.
- foster the development and advancement of project management knowledge.
- advance the awareness and understanding of project management as a profession.

The PMI Educational Foundation serves individuals with a common goal—promoting economic, educational, cultural and social advancement through project management life skills.





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# Excitement just ahead



Have you ever wondered just how a mile-long suspension bridge gets built? Or how a 100-story skyscraper somehow rises magically from the ground? Or how a tiny cell phone can have so many intriguing high-tech features?

There are many processes involved in these accomplishments, not the least of them being project management. Project management is a booming profession that is only going to get bigger in the years ahead. It offers excitement, challenge ... and a good income. If it's not a field you've considered, maybe you should. True, the prospects of a "career" may seem a long way off; in reality, however, you're reaching a point in your life where the decisions you make now will impact on your future.

So with that in mind, we say, "Welcome to the Project Management Career Guide." This guide will help you gain an understanding of project management as you begin to consider professional career options and plan for college, business school, or professional training. It will:

- Explain what project management is;
- Define the skills, knowledge, experience, education training and certification required to enter the project management profession;
- Increase awareness and encourage students with little or no knowledge of project management to consider it as a career option;
- Provide students, whether they have already selected project management as a career or not, with specific information on the educational background and criteria required to attend college or become a professional project manager;
- Identify opportunities available in the profession.

# So what is project management?

In a nutshell, project management provides organizations with the knowledge, skills, tools and techniques to plan and execute projects on time and on budget. Project management is accomplished through the use of processes like initiating, planning, executing, controlling and closing, all of which are critical to managing the project team, the client, and the work that needs to be performed.

**The primary objectives** of project management are to:

- Meet or exceed client expectations;
- Produce a high quality product or service;
- Complete the project on time and within budget;
- Deliver a project/product that clearly meets the needs of the business;
- Enhance organizational communications and teamwork by fostering an environment of cooperation and reduced conflict.

**Examples of projects** in the business world include (1) planning and implementing the Olympics (see pages 10-12), (2) creating a Web application to support selling a company's products and services, or (3) relocating portions of a business from one location to another.

Most likely, you have already participated on several different types of projects. Whether it's participating in a sports event or the school play, organizing a prom, publishing a newspaper, or entering a science fair competition, you're involved in project management.

There are many similarities between involvement in school projects and performing as a project manager in the business world. School projects very often provide experience in project management fundamentals such as planning, assigning tasks, tracking schedules, team leadership, and ensuring you accomplish what you was set out to do on time, and within budget (called "deliverables"). In addition, school projects may create an opportunity for you to participate on a project team and learn team dynamics.

# Let's talk sports:

## a basic analogy for understanding project management

There are multiple roles involved with successful project management, and those roles are discussed in more detail on pages 13-14.

Perhaps the easiest way to better understand the concept of project management and its related roles is through the use of a sports analogy. To make this analogy clearer, let's first list the multiple roles involved in project management. The analogy below will then shed light on several of these keys roles.

- Project
- Project Team
- Performing Organization
- Stakeholders
- Project Sponsor
- Project Executive
- Functional Project Manager
- Enterprise or Cross-Functional Project Manager
- Subject Matter Expert
- Project Team Lead
- Customer



If you have participated in school sports, you have probably encountered situations and roles similar to those in the example below. Let's assume, for example, that your school has a soccer team, and that the team's upcoming games for the season make up the **project**. The players on the soccer team are like the members of a **project team** within a **performing organization**: they are responsible for doing the work of the project. The players collectively work towards a common goal of winning games or matches and, eventually, maybe even a championship. Each player assumes a unique **functional role**, with specific assignments to help the team win. In a sport like soccer, as well as with football, baseball, basketball and hockey, the project team can be quite large and complex. In other sports like skiing, skating, tennis and bowling, the project team may be very small or only include one person.

Regardless of project size and format, however, there are common challenges that players must face when completing the assignments associated with their roles.

Now let's consider the **stakeholders** of a project. Project stakeholders are individuals and organizations that are affected positively or negatively by project execution and/or project completion. They may also influence the project and its results. A good project manager must identify the stakeholders, understand their requirements and then manage those requirements to ensure a successful project.

In our sports analogy, stakeholders include everyone interested in the outcome of the soccer game. Stakeholders—or fans—may be a small group consisting of team members and their immediate families and friends, and maybe even fans in the local community, including the school's alumni and the coaching staff. Similarly, in a small business or an organization with a few volunteers, there may be a limited number of stakeholders.

There are other key stakeholders as well. In a professional sports franchise, two high profile stakeholders are the team's owner and the general manager (GM). In a sense, the team owner is the **project sponsor**, because he or she provides the financial resources for the team. The team's GM would be a **project executive**, the person who exhibits the strong leadership, decision making and communication skills that ensure that the day-to-day and long-term operations of the team go smoothly. For the team to be successful, both of these stakeholders must not only "buy in" to the project, they must also express their expectations to the players and, when necessary, provide guidance and direction.

Let's not forget another key stakeholder: the head coach. After all, he or she devises the overall strategy and game plan for a particular opponent. The head coach's functional role parallels that of the project manager in the business setting. A **project manager** is responsible for managing the project. In sports, a coach must evaluate the talent and skill level of the players and then adopt a style and employ a system that takes advantage of each player's abilities. This gives the team its best chance of meeting its objective—in short, winning the game.

# Why consider project management as a career?

For one, it's **hot**.

In the 21st century, the demand for skilled project managers is at an all-time high as organizations and agencies continue to focus on higher productivity and greater customer satisfaction with minimum resources.

Historically, however, project management has been undervalued in the business setting. Why? In most industries, project management training was poor and, in general, businesses did not acknowledge the need for methods, procedures, guidelines or processes to support project management. Well, things have changed. Today, by applying sound project management principles, many organizations across a broad range of industries and professions base their success on the timely and efficient completion of projects.

## What's in it for you?

For one, marketability and value. Said another way, your skills will be in heavy demand by companies and organizations in multiple industries. The company or organization you choose to work for benefits greatly when you, the project manager, routinely display the skills, knowledge, training, education and expertise necessary for successfully managing projects.

There are many other benefits as well. As a project management practitioner you will:

- Earn an excellent salary and benefit compensation;
- Be highly skilled in the tools, techniques and processes (industry standards) used to effectively manage projects and produce expected results;
- Have a clear competitive career advantage over those seeking positions within project management but who do not have the necessary skills and credentials;
- Work in a profession that offers seemingly limitless opportunities for growth and advancement;
- Have ample opportunities for ongoing professional development, meeting others in your areas of interest, and sharing information on a global level.

## What you can earn

While salary levels will naturally vary by industry, by level of experience and by the amount of formal education and/or certifications one has, compensation may begin at \$30,000 (US) as an entry level project team member and go well into six figures as a project management executive.

Nowadays, with the explosive growth of project management, you can become a project manager in virtually any field. Although project management is better established in aerospace, defense, information technology and large construction industries, companies and organizations in countless business sectors have begun adopting project management in key areas, and often at a significant investment. As a skilled project management practitioner, you're part of that investment.

### Annualized median salary (U.S.) by years worked in project management\*

3 years of less . . . . .	\$65,000
4 to 5 years . . . . .	75,000
6 to 10 years . . . . .	85,000
11 to 15 years . . . . .	92,000
16 to 20 years . . . . .	95,000
21 years and over . . . . .	100,000

\*Information from *PMI® Project Management Salary Survey—Third Edition*

# Exciting career options in project management

Opportunity knocks! Project management encompasses a broad range of interesting and rewarding career options from aerospace and defense to the planning and construction of mammoth skyscrapers, bridges and energy plants and systems. Below are just some of the most popular career paths where strong and effective project management skills play an absolutely essential role:

## **Aerospace and Defense**

Project managers in this field are dedicated to planning and improving projects in the key arenas by implementing proven project management techniques and principles.

## **Automation Systems**

Automation systems are an integral part of modern civilization and will be even more extensively utilized in the future. They can be complex and represent additional costs over traditional systems. They are, however, implemented on the basis that the benefits—including energy conservation, increased labor efficiency, preventative maintenance and health and safety—outweigh the costs. One of the greatest challenges automation systems will introduce into your project is their tendency to cross over numerous traditional work package boundaries and sub-trade boundaries, impacting scope, time, and cost in a significant way.

## **Design, Procurement and Construction**

Do you like to see things grow? In this field you will be involved in the development, design, engineering, procurement and construction

processes for projects involving buildings and facilities in the residential, commercial and industrial sectors worldwide.

## **Education and Training**

Project management lives and thrives wherever people and improvement are involved. Here you'll use your project management skills to improve educational processes, control workload and develop innovative educational programs and systems to improve the lives of people eager to learn and grow.

## **Environmental Management**

As a project practitioner, you'll have an opportunity to successfully plan, manage and participate in projects aimed at solving global environmental, social or developmental problems.

## **Financial Services**

Use your acquired project management knowledge and expertise to effectively manage change and develop innovative business and customer service solutions in the banking, insurance, real estate, investments and other financial service fields.

## **Healthcare Project Management**

Here, project managers and practitioners may work within the framework of health plans, health care providers, clearinghouses, business partners or consulting firms; you'll also work with those who implement projects specific to information technology, regulatory obligations, business process re-engineering, etc. The healthcare industry is changing like never before, particularly with the recent mandate requiring the use of standard electronic transactions. To meet this mandate, providers are increasingly looking to outside consulting firms and organization versed in project management to implement the necessary new technologies.

## **Information Technology & Telecommunications**

You'll be involved with developing and improving technologies that include voice/data/video transmission and switching (e.g., analog, digital, satellite, microwave, fiber-optic), end users of the deliverables and infrastructure providers.

## **Manufacturing**

Modern project management plays an essential role in the planning, execution and control of the manufacturing process including projects involving new product and process development, production upgrades, and efficiency upgrades.

## **New Product Development**

Do you enjoy playing the latest video games? As with any new product in a highly competitive market, developing new and interesting video games requires strong project management to ensure timely delivery of innovative and appealing products. In multiple industries, project managers and practitioners are intricately involved in the development and introduction of new products, processes and services.

## **Risk Management**

All successful projects are highly dependent on the keen recognition and measurement of risk factors. As a project practitioner in the risk management field, your role in developing and managing concepts and ideas that monitor and manage risk make you an indispensable partner in any company or organization's project management process.

## **Urban Development**

According to the United Nations Population Division, Department of Economic and Social Affairs, "virtually all the population growth expected during 2000-2030 will be concentrated in the urban areas of the world." As a project practitioner in this arena, you will use your acquired knowledge and skills to facilitate the successful implementation of projects and programs that are deployed in an urban environment, including disaster relief and emergency management, civil affairs projects and much more.



## Showtime!

Great project management gets worldwide recognition!

### The 2002 Winter Olympic Games

**Recipient of the 2003 PMI Project of the Year Award  
Presented by the Project Management Institute (PMI®)**

The Project Management Institute (PMI), the world's leading not-for-profit professional association, annually recognizes the greatest contributions and achievements in the project management profession. The purpose of the PMI Project of the Year Award, the most prestigious award presented by PMI, is to recognize and honor superior performance and execution of exemplary project management.

Could the Olympic Winter Games really be a single project? Could the principles and practices of project management really be one of the driving forces behind the outstanding success of the 2002 Olympic Winter and Paralympic Games? The answer is unequivocally yes to both questions.



Anyone who watched any part of the 2002 Winter Olympic Games could probably see that this was an extraordinarily complex event to plan, operate and manage. However, the guess is that few people outside of those directly involved would believe that these 15 days, encompassing 78 Olympic and 15 Paralympic events, were all managed as a single project ... starting fully five years prior to the opening of the games on 8 February 2002.





This Olympic project was a massive undertaking, costing, in total, \$1.9 billion (US). The project, which was completed within the guidelines of a single project plan and bound by a rigid delivery date, was driven by the complexity of integrating 77 nations and games-time operations spread across a large geographic footprint—fully 8,000 square miles. Making the accomplishment even more remarkable, the project was largely delivered by volunteers and operated in the wake of the terrorist atrocities of September 11, 2001.

And it all happened through project management! Through the successful application of project management principles, the Salt Lake Organizing Committee (SLOC) for the Olympic Winter Games of 2002 managed to stage what the SLOC feels was one of the most successful Olympic Games, winter or summer, in history. In addition, the SLOC was the first Olympic organizer to combine Olympic Games with Paralympic Games under the same project management budget and schedule.



# Going up?

## Climbing the project management career ladder.

Okay, so maybe you're a little intrigued by this thing called project management. But, as a career, where can you go? And how quickly? Naturally, experience and education will play an important role as you progress into and through the project management profession.

For starters, let's look at entry level opportunities. Most likely, that will be a project management position in a small or large company. Your credentials may include a certificate in a technical field (developer or analyst) or in a functional area (Web, accounting, human resources, etc.) or an undergraduate degree in project management. If you don't have an undergraduate degree, your background may include some college, or three years or less of work experience with no college background.

So you've landed an entry level position in project management. Now what? What's your next move? Truthfully, how you advance within the project management profession is pretty much up to your ambition, interests and the direction you want to go. One possible path of progression is outlined below. Know, however, that as you assume positions with greater responsibility, educational requirements will vary:

**1. Project Team Member** – Also referred to as a Subject Matter Expert (SME). You are a representative from a functional group with a designated set of skills expected to complete project tasks that require those skills. You will report to either a Project Team Lead or a Project Manager, depending on the size of the project.

**2. Project Team Lead** – You are responsible for a specific set of deliverables for a project. Here, you must have proven skills at developing project plans, assigning people to tasks and making sure tasks get completed.

**3. Functional Manager** – If you're drawn to running a function of the business, this rung on the career ladder is for you. You now manage others within your specific function, e.g., engineering, communications, accounting, etc.

**4. Project Manager** – If you choose this path, you may work in one functional area or manage projects that cross functional areas. You will typically have a master's degree in project management, or a master's in business or a specialized field of study. You will have managed projects for five years.

## Opportunities beyond project management

You've worked hard, climbed the career ladder, and now you're a proven project manager. But you think you want more. So what's the next career step? Again, it depends on the industry and the company for which you work. However, here are some possibilities that offer challenge, exposure to multiple projects, plenty of people contact as well as an opportunity to travel and work virtually from locations all around the world:

**1. Program Manager** – In this position, you are a project manager that manages several interrelated projects at the same time.

**2. Functional Manager** – You will serve in a teaching role within a specific function. The ability to work with others, communicate and effectively plan are essential in this role.

**3. Enterprise Project Manager** – You will align people, projects and organizational priorities and reclaim wasted resources that add no business value.

**4. Direct a Project Management Office (PMO)** – A Project Management Office is a group of project managers that can be assigned to projects anywhere in a company or organization, or for that matter, anywhere around the world.



# Hitting the books

## Or, preparing for your career in project management.

Until recently, project managers have acquired degrees in a functional field of study, i.e., marketing, accounting, engineering, and technology. With the dramatic growth of project management as a profession, however, project management is becoming one of today's fastest growing degree programs worldwide. There are now over 160 universities/institutions awarding degree/diplomas in project management (see directory on page 16). There are project management degree programs at the bachelor's, master's and doctorate level, generally available through on-campus participation or distance learning.

### **Bachelor's degree**

Outside of construction science degrees, few bachelor's degrees are offered in project management. However, many engineering and management degrees and perhaps other degree programs are now incorporating project management skills into their curriculums. Ask the schools that you are interested in attending if they help students develop project management skills and knowledge at the undergraduate level.

### **Master's degree**

Masters degrees are the most common form of project management degrees. Degree programs are typically found in engineering, construction science or business administration departments.

The master's degree program typically presents an innovative curriculum that balances practice and theory in project management. Generally, the curriculum is carefully compiled—and is continually improved—to include the skills needed for making the transition from project team members to project managers. You'll learn to integrate complex projects, motivate people and achieve cost-effective results.

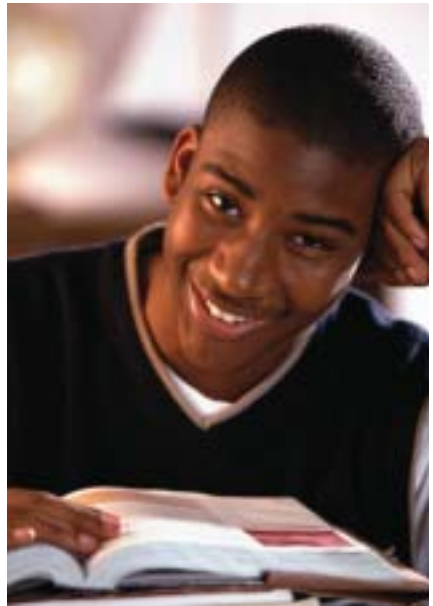
### **Doctorate in Project Management (Ph.D.)**

The doctorate degree is the ultimate formal education level in project management and is currently only offered by a small number of schools. However, many doctorate of business or engineering degree programs can be designed to focus on project management. A doctorate degree establishes you as an expert

in the field and qualifies you to teach at the university level or hold senior positions in industry and government.

Obtaining your doctorate degree in project management will equip you with in-depth knowledge in specific areas of project management while developing your research capabilities, which can be applied in industry, government and academia.

In general, students entering a doctorate program without previously having completed a master's program may be required to take a specified number of credit hours of courses in the project management curriculum (which may include outside courses subject to approval) in addition to the graduate school requirement of a specified number of credit hours of dissertation research. Credit hours will vary by schools and programs.



## Directory of schools, colleges and universities offering project management education

Amber University  
American Graduate University  
Athabasca University  
Augsburg College  
Australian Defence Force Academy  
Baldwin-Wallace College  
Bellevue University  
Bentley College  
Boston University  
Bournemouth University  
Bryant College  
Cal Poly University  
Canadian Institute Of Computer Technology  
Central Washington University  
City University  
College of Southern MD, La Plata Camp.  
Colorado State University, Denver  
Colorado Technical University  
Cranfield University  
Denver Technical College  
DeSales University  
Durham College & University Centre  
Eastern Washington University

Everett Community College  
Erasmus University  
George Washington University  
Georgia Institute of Technology  
GIK Institute of Engineering Sciences & Technology  
Golden Gate University  
Helsinki University of Technology  
Henley College  
Humber College  
Instituto de Direccion de Proyectos  
ISIG-Lille Graduate School of Management  
ISIM University  
Keller Graduate School of Management  
Lancaster University  
Lawrence Technological University  
Leeds Metropolitan University  
Lille University of Science & Technology  
Montana State University-Bozeman  
Montana Tech  
Mount Royal College  
National University  
New York University, SCPS

Niagara College of Applied Arts & Technology	Universite de Quebec A'Trois-Riveres *
Northwestern University	Accredited by PMI Global Accreditation Center
Norwegian School of Management	University of Aberdeen
Okanagan University College	University of Alaska, Anchorage
Our Lady of the Lake University	University of Bradford
Penn State University	University of British Columbia
Queensland University of Technology	University of Calgary
Rands Afrikaans University	University of Central Florida
Red River College	University of Florida
Regis University	University of Hong Kong
RMIT University	University of Idaho at Idaho Falls
Robert Gordon University	University of Limerick
Robert Morris University	University of Luton
Royal Roads University	University of Manchester Institute
Saint Mary's University	University of Management & Technology
San Jose State University	University of Maryland
Schulich School Of Business, York University	University of NE Partnerships
South Bank University	University of Northumbria, Newcastle
S.P. Jain Institute of Management & Research	University of Phoenix
St. John's University	University of Portsmouth
Stevens Institute of Technology	University of Reading
Tecnologico de Monterrey, CSIM	University of Rochester Simon School of Management
Texas A & M University	University of San Diego
The Norwegian University of S & T	University of Scranton
University of California, Berkeley	University of South Australia
University of California, Davis	University of Sunderland
University of California, Irvine Extension	University of Sydney
University of California, San Diego Extension	University of Technology, Syndey
Universite de Quebec En Abitibi * Accredited by PMI Global Accreditation Center	University of Texas at Dallas
Universite de Quebec A'Chicoutimi * Accredited by PMI Global Accreditation Center	University of the West Indies
Universite de Quebec A'Hull * Accredited by PMI Global Accreditation Center	University of Ulster
Universite de Quebec A'Montreal * Accredited by PMI Global Accreditation Center	University of Western Sydney, Nepean
Universite de Quebec A'Rimourski * Accredited by PMI Global Accreditation Center	University of Wisconsin-Milwaukee
	University of Wisconsin-Platteville
	Victoria University of Technology
	Wake Forest University
	Walsh College of Accountancy & Business
	Western Carolina University * Accredited by PMI Global Accreditation Center
	Wright State University

For a Web listing of project management graduate schools, go to the Web site of The Project Management Institute (PMI®) ([www.pmi.org](http://www.pmi.org)) and click on Professional Development and Careers, then Academic Degree Accreditation, and then Graduate Schools. You will find more information about The Project Management Institute below.

# Certifications:

## expanding your level of expertise

The learning never stops in project management. The demand for projects to be completed on time and within budget requires trained professionals who represent a blend of project management knowledge, skills and experience. That's why today's successful project practitioners, interested in attaining a level of expertise over and above their formal schooling, regularly participate in project management training and certification programs.

There are various certifications available through The Project Management Institute (PMI) as well as educational and training institutions.

### PMI Certifications:

- Project Management Professional (PMP®)  
The PMP credential is the profession's most globally recognized and respected certification credential.
- Certified Associate in Project Management (CAPM™)  
Intended for those practitioners who provide project management services but are relatively new to the profession.

To earn either one or both of these credentials through PMI, candidates must meet specific education and experience requirements, and then pass an examination. In addition, those who have been granted the PMP credential must demonstrate an ongoing professional commitment to the field of project management by satisfying PMI's Continuing Certification Requirements Program.

Certifications through PMI are based on *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, industry standards and additional project management materials (CDs, books, videos, etc.)



## In Summary

**Few fields of endeavor offer the excitement, challenge, diversity, sense of accomplishment and excellent income potential as project management.** If you like working with people, honing your communications skills, having hands-on involvement, managing projects from start to finish, and seeing the results of a true team effort, you will be genuinely excited about the opportunities awaiting you in project management. Commit now to learning more about this dynamic profession. Talk to your friends. Speak with your guidance counselor(s). Surf the Internet to find out more about schools offering an education in project management. Why wait one more day to begin planning for a lifetime of rewarding and stimulating accomplishment. Your career in project management is waiting.

For more information about opportunities in project management visit the PMI Web site at [www.pmi.org](http://www.pmi.org) or [www.highschoolpm.org](http://www.highschoolpm.org).



## About PMI

PMI has over 100,000 members in more than 135 countries and is the world's leading advocate for the project management profession. PMI sets industry standards, conducts research and provides education, certification and professional exchange opportunities designed to strengthen and further establish the profession. PMI advances the careers of practitioners, while enhancing overall business and government performance through documentation of return on investment. For more information, visit [www.pmi.org](http://www.pmi.org).



## About

### PMI Educational Foundation

The Project Management Institute (PMI) founded the PMI Educational Foundation in 1990. It is an autonomous, non-profit, non-political, charitable 501(c)(3) organization created to promote economic, educational, cultural and social advancement through the application, development and promotion of project management concepts, theories and life skills.

# Acknowledgements

The information in this guide has been assembled with the dedication and helpful input of the following project management professionals:

**Penny Lewis, PMP** (Project Manager)

**Rekha Bhardwaj, PMP**

**Joseph D. Ciarlanto**

**Anthony S. Colletti**

**Cheri Evans**

**Kara Prentice**

**Varada Manavalan**

PMI extends a special acknowledgement and thank you to Williamson Creative Services Inc, Carrollton, Texas, USA, for their exceptional generosity and creative contributions.



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