



USAID
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TRAINING NEEDS ASSESSMENT

FOR ARCHITECTURE & ENGINEERING BUSINESS COUNCIL

October 6, 2008

This publication was produced for review by the United States Agency for International Development. It was prepared Jonathan S. Lane AIA AICP, Terry Saunders Lane, and Ruba Afana.

TRAINING NEEDS ASSESSMENT

FOR ARCHITECTURE & ENGINEERING BUSINESS COUNCIL

USAID JORDAN ECONOMIC DEVELOPMENT PROGRAM

CONTRACT NUMBER: 278-C-00-06-00332-00

BEARINGPOINT, INC.

USAID/JORDAN

OFFICE OF ECONOMIC GROWTH

OCTOBER 6, 2008

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DELIVERABLE NO: 7.6.5.B.7.25.1 & 2 A&E BUSINESS COUNCIL TRAINING NEEDS ASSESSMENT AND STRATEGY REPORT AND

7.6.5.B.7.26 & 27 IDENTIFICATION AND ANALYSIS OF CERTIFIED TRAINING PACKGES FOR A&E BUSINESS COUNCIL

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FOREWORD

This study was prepared to identify training needs and develop a training strategy for the A/E Business Council of Jordan. The authors extend appreciation to the staff of the AEBC, including Samar Kilani and Amnah Anabtawe for their input and assistance in providing information and liaison to the AEBC firms. The work would not have been possible without the gracious assistance of representatives of the AEBC member firms in responding to the Internet Survey and for taking part in personal interviews with the research team.

The opinion expressed in this document are the views of the authors and do not reflect the policies or opinions of USAID or the American Government.

1. EXECUTIVE SUMMARY

1.1. ACTIVITY

This project is a Training Needs Assessment (TNA) and Strategy for the Architects and Engineers Business Council (AEBC) and its member firms – the country's leaders in this sector - to assist them to improve technical and business skills at a time of great opportunity in the region. The project identifies appropriate training resources that will enable the AEBC and its member firms to determine what types of training are likely to make a difference during a period of significant sector growth.

1.2. JUSTIFICATION

By identifying key training resources and strategies for the Architectural and Engineering (A&E) sector, this project will support the AEBC as it assists member firms to expand revenues, add engineering jobs, increase product and process quality, and compete more effectively within Jordan and the larger region. Demonstrated success for the AEBC and its firms will attract more firms to participate in the AEBC and benefit from its approaches.

1.3. PROJECT METHODS

AEBC invited all its members to take part in the TNA and 18 of 19 member firms agreed to participate. Data on training needs and resources was collected by the following methods:

Internet Survey of Training Needs	17 firms responded
Survey of Prior Training provided by individual firms	8 firms responded
In-person Interviews	16 firm interviews

1.4. MAJOR FINDINGS

1.4.1 The AEBC firms

The firms are diverse. The firms have different capabilities and needs and range in size from over 1,000 staff to under 30. Capabilities and core skills are different, as some AEBC members provide only engineering services, some provide only architectural services, and some have multi-disciplinary capabilities. Management systems and organizational capacity vary broadly, from highly sophisticated to basic approaches.

They are working in a growth environment. Nearly all the AEBC firms have experienced recent growth and forecast accelerated growth in the near future. Half the firms expect a 5-year annual expansion rate of 6-10% and nearly 1/3 of the firms expect a 5-year annual expansion rate of 10-15%. Accordingly, competition is strong for contracts and for talent, as huge inflows of Gulf capital are causing a building boom in Jordan and throughout the region. Opportunities for high wages in the Gulf are drawing away talented staff and some firms find that the quality of recent graduates from Jordanian engineering programs cannot keep up with the pace of the work.

Training can address business challenges. Most of the firms recognize that training is essential to address skill development, management, and strategy issues. As growth continues, the needs will increase. However, training can do little to address salary and fee competition pressures.

1.4.2 Training Needs of AEBC Firms

Training initiatives of AEBC have been helpful. Several training resources are available in Jordan, including some private sector training companies. The firms indicate that the quality of training offered by the Jordan Engineering Association training varies. It is reasonable in cost and many firms attend, but, in some cases, the training is often not engaging or effective and has been given mixed evaluations. AEBC training has been well received, as new topics have been introduced and outside experts have offered new insights. Few firms do regular training needs analysis or training resource searches on their own – so the role of AEBC is very important.

One size will not fit all. The very different capabilities and needs of the diverse AEBC member firms makes it hard to address the needs of all parties for many types of training, particularly those dealing with management, strategies, and firm operations.

Many attributes of the firms can be “substantially improved/improved through training.” Every single respondent to the surveys (100%) highlighted technical skills, project management, and personnel management as areas for improvement. A substantial majority (over 75%) of respondents felt that marketing, financial management, and strategy & business planning could benefit from training. On the other hand, respondents gave lower priority to training dealing with client relationships (47%), teamwork (38%), and leadership development and transition (29%).

Some training needs are common to all firms. In general, survey respondents felt strongly that management staff would benefit from training in HR and marketing, that all types of staff need additional training in project management, and that A&E technical staff need ongoing technical training. Key areas for training include:

1. **Technical training** – will always be required in order to stay current with standard and specialized software used by architects and engineers as well as for technical topics dealing with new technologies and trends.
2. **Project Management Training** – will be required to enable firms to advance capabilities of their personnel to handle expanding A&E services. Some firms need basic fundamentals today to improve capabilities of existing project managers and others may need training for current technical staff who are taking on new project management responsibilities.

Other training needs will vary by firm, reflecting the staff composition, mix of work, and management capacity. The need for management, finance, and HR training is directly influenced by firm size, organization, and business expertise:

1. **Office management systems.** Further training in basic finance, HR, and overall office management would be most helpful to smaller firms who do not have coordinated office systems, although specialized topics may respond to the needs of larger firms.
2. **Marketing and business development.** Training in methods and systems would probably be beneficial, but not all companies recognize this or are accustomed to it in an environment where personal relationships have a big influence on business development.
3. **Business and strategic planning.** Many firms want additional assistance with business and strategic planning; however, for larger and more sophisticated companies consulting assistance may be more suitable than training programs.

1.4.3 Training Resources

A wide range of training resources and providers are available. The resource inventory in this report focuses on providers who have the capability to deliver certified training for AEBC Members. The inventory revealed that global, diverse and extensive resources are available, documenting 30 training resource providers. However, AEBC and member firms will have to invest some energy to select

providers that are a good match for their needs. Two categories of resources providers have been identified:

1. **Organizations that target A/E firms** -- including professional associations and companies that specialize in providing training and other resources to the A&E industry.
2. **Organizations that provide more general training** -- in business, finance, HR, and project management training to all types of businesses and are not targeted to the A&E industry.

Significant opportunities exist now and are likely to expand in the future for on-line training. In recent years, opportunities for web-based, on-line learning have expanded dramatically to take advantage of higher bandwidths that can be provided via the Internet. Fees are charged, but participants can work from their own offices and costs are typically more affordable than in-person training. Training in this mode includes self-study courses, on-line seminars (referred to as webinars), “e-casts,” knowledge communities, blended training that combines in-person and on-line methods, and on-line publications and toolkits. These methods can make the world available to the AEBC and its member firms.

1.5 RECOMMENDATIONS AND NEXT STEPS

Based on this Training Needs Analysis, the AEBC should take the following actions:

1. **Continue to facilitate and organize targeted training courses** that respond to needs of its members, incorporating the findings of this Training Needs Analysis and Strategy.
2. **Communicate clearly the target audience for its sponsored training activities** to make sure that participants have a good understanding of the level of detail and applicability of planned training sessions to their own practices and needs.
3. **Facilitate use of the wealth of on-line resources** for its member firms to take advantage of global training capabilities.
4. **Work with training providers to add supplemental case material** that is tailored to the business, design, and construction environment in Jordan and the Middle East to make content as relevant as possible to local conditions.
5. **Consider collecting and disseminating regularly updated data** that could be useful in local benchmarking to assist firm managers in developing a comparative understanding of how their practices relate to the industry as a whole.
6. **Facilitate training that takes advantage of technical resources in the construction and building material industry** through developing better training relationships and practices with suppliers and manufacturers who have the potential to be important content providers.

2. RESEARCH QUESTIONS AND STUDY METHODOLOGY

2.1. ECONOMIC AND PROFESSIONAL CONTEXT OF THE TRAINING NEEDS ANALYSIS

The study is based on a request to the USAID Funded Jordan Economic Development Program (SABEQ) from the AEBC for assistance in increasing the competitiveness of its member Architecture & Engineering (A&E) firms to take advantage of increasing opportunities for new business in Jordan and the Middle East. Fast growth in the A&E sector is posing several major challenges to the firms, including:

- Competition from international firms entering the Jordanian and Middle East markets.
- Demand for rapid turn-around on A&E projects.
- Management of rapid business growth.
- Increasing demand for staff to take on management responsibilities of large complex projects, with limited training or expertise in this arena.
- Need to familiarize new staff with new developments in materials and techniques in the construction industry.
- Difficulty integrating recent graduates of Jordanian A&E programs into professional practice.
- Increasing number of multi-disciplinary projects (combining architecture, engineering, landscape, and/or master planning) that are complicated to manage.
- High demand for A&E talent in the fast-growing Gulf countries, leading to upward salary and benefit pressures on firms in Jordan.

The A&E Business Council members and staff hope that training can address many of these issues, and the Council has begun to assess training needs and offer courses. Given the focus of the Council on business expansion and competitiveness, it has directed its attention to training in the areas of business development and management. To move forward, the Council needs to develop an overall strategy that takes account of the vast array of existing training resources that are available. This report addresses the issues associated with this task and provides a framework for reviewing potential training resources.

2.2. RESEARCH QUESTIONS AND DATA COLLECTION APPROACH

2.2.1 Research Questions

In response to the contextual factors identified in the preceding question, a series of research questions were posed that directly affect the needs for training in this sector. These questions were addressed by collection of data about the firms – including their composition, current training activities, anticipated needs for training, business context, and staff composition – through the means described in Figure 1, below.

Figure 1: Research Questions and Data Collection

Research Question	Internet Training Needs Survey	Firm Interviews	Survey of Prior Firm Training
What is the growth history and expectation for A&E firms in Jordan?			
What are the major reasons for growth and contraction?			
What are the major business challenges faced by the firms?			
Can training address those issues?			
What are the most important training topics and for what types of staff?			
How do the firms assess skills of new graduates of A&E programs?			
What training resources are used by A&E firms? Do they cover all the important topics?			
How do firms locate appropriate training resources?			
What is the assessment of the training that has been provided: quality of content, quality of instruction, cost?			
What roles do professional associations play in providing training?			
Are there other roles that they could take on?			
Are there variations in answers by size of firm? By type of staff to be trained? By location of office? By mix of staff?			

2.2.2. Internet Survey of Needs

This survey, distributed on the Internet to a primary and secondary respondent at each of 18 AEBC firms through the web-based www.surveymethods.com interface, benchmarked 17 respondent firms in terms of size, mix of work, staff composition, and growth expectations. The survey respondents estimated training needs by content and type of staff. The results of the survey pointed to the highest priority training needs of the firms, the degree to which respondents felt that training would be effective, the type of staff that was considered to be a high priority for training, and other comparative features of each firm that were helpful in developing an understanding of firm and industry needs. The summary report of the survey is in **Appendix 3** of this report.

2.2.3. Survey of Prior Firm Training

A primary contact at each AEBC firm received this survey to document Training Programs offered by the firm over the past year. Firms provided, for each training program, a description, estimate of numbers and type of staff participating, and responses to several qualitative questions regarding the perceived effectiveness of each program. Eight of the 18 firms provided responses. Although the responses were not sufficiently broad to provide a comprehensive picture of training for the firms as a group, the information enabled a basic understanding of the range and depth of training across the AEBC firms.

2.2.4. Firm Interviews

Following completion of the above surveys, the research team personally interviewed members of the firms in order to supplement the data with direct interaction and observations. Representatives of 17 of the 18 firms participated. Meetings occurred either with staff specifically responsible for training and/or human resources or, in many cases, with a principal or owner of the firm.

2.3. RESOURCE INVENTORY

The project team also identified training resources that could address the specific training needs of architectural and engineering professionals and their firms. The research revealed a global network of training resources that could be useful; however, firms may not know about them or have the time to assess their quality and

availability. Additionally many staff and managers in these firms were not aware of the range of options, especially in the areas of business development and management.

This research was carried out through an Internet search of providers, with emphasis on training organizations and providers that provide internationally certified or recognized training that could:

- Provide some assurance of quality to consumers.
- Have credibility when training courses are cited to external parties.
- Serve as a knowledge baseline for development of further training and professional development activities.

The detailed approach to this inventory is described in Section 6 of this report, and the most relevant resources are described in Appendices 1 and 2.

3. THE AEBC FIRMS: FINDINGS FROM THE INTERNET SURVEY

3.1. OVERVIEW

The 17 AEBC member firms that participated in the study are diverse and have different capabilities and needs. These firms include many of the larger architectural and engineering companies in Jordan. Although these firms do not necessarily represent a cross-section of the country's A&E professionals, they are among the leaders of the profession in Jordan. The participating firms included:

- Amman Consulting Engineering & Planning Office
- Arab Center for Engineering Studies
- Arabtech Jardaneh Engineers & Architects
- Associated Consulting Engineers
- BAHA Consultant Engineering
- Bitar Consultants Architects & Project Manager
- Consolidated Consultants Engineering & Environment
- Consulting Engineering Center (Sajdi & Partners)
- Dar Al-Omran Planners- Architects- Engineers
- ECO-Consult Development & Business Consulting
- Engicon
- Faris & Faris architects
- Faris Bagaeen Architects
- Maisam Architects & Engineers
- Sigma Consulting Engineers
- Sobeh Consulting Engineering Office
- TIBAH Consultants.

3.2. KEY CHARACTERISTICS OF THE FIRMS

3.2.1 Size

The firms responding to the Internet survey range in size of staff from over 1,000 to under 30. In general, the size of AEBC member firms is relatively large in the context of A&E firms elsewhere:

- 46% of the firms have over 100 employees
- 37% of the firms have over 200 employees
- 54% of the firms have less than 100 employees

3.2.2 Professional Services Offered

Architecture and engineering are the predominant services. A few firms also provide construction management, urban planning, and/or landscape design. A small number provide other specialized services related to building, infrastructure, environmental assessment, and related fields.

Most firms that specialize in architectural design and building services offer in-house engineering services, although one or two firms specialize in architecture and secure engineering services through sub-consultants. Several firms specialize only in engineering services, and a small number - typically the largest ones - have strong independent practice groups in architecture and engineering. The distribution of services, as represented by staff composition of the firms, includes:

- 31% Architecture
- 33% Engineering
- 8% Construction Management
- 8% Master Planning/Urban Design
- 6% Environmental Services
- 5% Landscape Architecture
- 9% Other Services

3.2.3 Location

Most AEBC member firms (75%) have only one office, with all staff in Jordan, although many firms place significant numbers of non-permanent project personnel on-site at construction projects. Most staff are located in Jordan, as 84 % of firms have more than 75% of their staff in Jordan. Only one firm has less than 25% of its staff in Jordan – and this firm is highly specialized with numerous branch offices. However, about half (53%) of the respondents reported that they had offices outside of Jordan, and one-quarter maintained 5 or more offices elsewhere.

3.2.4 Management

Over half of the firms are either family-owned or single-proprietorships. The individual interviews revealed that, in some cases, this characteristic constrains opportunities for expanded ownership and participation in management and finance for other staff of these firms. Overall management systems, organizations, and administrative capacity vary from highly sophisticated systems to basic approaches. In the aggregate, the firms have been quite effective and, as noted, by international consultants Zweig White, the AEBC members exhibit a high degree of sophistication, “. . . (1) sophisticated strategic plans, (2) exceptional management systems, (3) strong teams, (4) commitment to change, and (5) determination to work together.”¹

In the Internet survey, the firms indicated that the primary characteristics thought to have been “extremely/very important” to their success to date were:

- Technical skills 100% of respondent firms identified this characteristic
- Project management 100%
- Leadership 95%
- Financial management 94%
- Client relationships 94%.

Of these characteristics, the most critical features of past success were leadership and client relationships. More than four-fifths (81%) of respondents rated leadership as “extremely important” to their success and two-thirds (67%) said client relationships were “extremely important.” Marketing (29%) was judged to be less critical than any other characteristic as many respondents rated it as “somewhat important/not at all important.”

3.2.5 Rate of Growth

The last several years have been ones of great opportunity for the most capable of the A&E firms, as the relative stability of Jordan, the availability of large amounts of investment capital from oil-rich gulf countries, growth of international tourism, national infrastructure and improvement projects, and a general real estate boom in Amman

¹ Ms. Christine Brack, ZweigWhite, Pathway To Principal And Consulting Services: A Workshop For The Architects And Engineering Business Council Member Companies, USAID Jordan Economic Development Program, Bearingpoint, Inc., USAID/Jordan, Office Of Economic Growth, August 14, 2008, page 1.

have resulted in much planning and design work. The past annual rate of growth for the AEBC firms has been impressive, and predictions for the coming three years are optimistic, as noted by the survey responses:

- Growth over the past three years has been significant
 - All firms except one reported some growth in each of the past three years.
 - 44% of the firms reported over 15% average annual growth.
 - 25% of the firms reported average annual growth of 11-15%.
- Growth over the next five years is anticipated to continue at a comparable rate
 - 50% of the firms anticipate average annual growth in the 11-15% range.
 - 31% of the firms anticipate average annual growth over 15%.

In this context, competition is strong for contracts and for talent. Opportunities for high wages in the gulf are drawing away some talented staff outside the region. Interviews show that many firms believe that recent graduates from Jordanian engineering programs need significant practical experience and training to effectively contribute to their offices. In this context, training can address skill development, management, and strategy issues. However, all firms will continue to face problems of upward salary pressure and fee competition, leading to challenges for employee retention in the future.

3.3. SUMMARY OF FIRM TYPES

The AEBC members include firms with different areas of specialization, different mixes of disciplines, and different levels of operating systems and management capacity. For the purposes of the Training Needs Analysis, the firms have been divided into three types, based on the information gleaned from the Internet survey and the interviews:

- **Large A/E firms dealing with building and infrastructure** – These firms have, typically, a strong multi-disciplinary capacity to provide services for buildings and infrastructure design, as well as for specialized related services. These types of large firms can compete effectively for either architectural or engineering projects, and for their architectural projects tend to provide most or all of the engineering services from in-house staff. Additionally, these firms are large enough to have departments for specialized related professional services as well as for administrative and financial core services. Four of the eighteen firms correspond to this type, including Consolidated Consultants, Arabtech Jardaneh Engineers and Architects, Dar-Al-Omran, and Sigma Consulting Engineers. Each of these firms has a staff of over 200 and includes a relatively high level of management and business expertise.
- **Large firms principally offering engineering services** - These firms specialize in engineering services of various kinds, but typically little or not services for architectural design of buildings. Firms that specialize in engineering services have a relatively simpler level of coordination and find it more straightforward to institute management systems and procedures than firms that also provide architectural services. Three firms in this category include Arab Center for Engineering Studies (ACES), Engicon, and Consulting Engineering Center. Each of these firms has total staff exceeding 150, with the largest and most specialized of the firms (ACES, dealing with geotechnical engineering and related testing) has a staff of over 1,300, with many branch offices in other countries.
- **Firms of intermediate to small size, principally specializing in building design and related engineering services** - This is the largest group of firms, including 10 survey respondents. Although some diversity exists among these firms, they tend to have from 20 to 60 staff in their central offices with a focus on building design. Depending on firm interests and specialization, firms in this group typically have project-based field staff dealing with project construction

phase services of from two to five times the number of central office staff. These firms have varying levels of business sophistication, but tend to share similar concerns regarding office management and services due to their size range. Within this group, few firms provide only architectural services and one firm (ECO Consult) specializes in environmental services and business consulting. The size of these firms limits their ability to support large overhead and administrative staffs. Firms in this group can benefit significantly from training services provided by AEBC.

3.4 TRAINING STRATEGIES USED BY AEBC MEMBER FIRMS

3.4.1 Sources and Types of Existing Training

Most firms take advantage of courses offered by the Jordan Engineering Association (JEA) and the AEBC. From the survey, respondent firms indicated that when their firm has sponsored attendance at training programs in the past, they identify appropriate programs “consistently/often” by:

- Course offerings from AEBC 71% of respondents
- Course offerings from JEA 66%
- Requests from staff 57%

However, only 38% of the firms “consistently/often” base training decisions on their own research about training needs of their staff. The courses offered by AEBC have had an influence on training decisions by the member firms – and will likely continue to be an important influence.

Typically both AEBC and JEA courses have been well utilized by the firms. During the interviews, respondents commented that some AEBC courses were not properly attuned to the knowledge level of participants. This problem is understandable, given the diverse size, composition, and levels of operational sophistication of the AEBC firms. Others were concerned that some AEBC courses were expensive. However, in general, AEBC training offerings have responded to unmet local needs and have received positive comment for highlighting new topics to Jordan and bringing in outside experts to offer new insights.

Some respondents felt that JEA courses were often lectures that did not use contemporary training techniques and could be improved by making them more engaging and effective. On the other hand, others commented that the JEA training is typically reasonable in cost and well received by recipients.

From the survey, it is clear that most of the AEBC firms do not undertake regular training needs analysis or training resource searches on their own – so the role of AEBC is very important. However, the very different capabilities and needs of the diverse AEBC members makes it hard to have “one size fit all” for many types of training, particularly those dealing with management, strategies, and firm operations.

Nearly all firms rely upon on-the-job training that occurs naturally in a professional office environment, as more experienced personnel mentor and guide less experienced staff in technical analysis, work tasks, and project methodologies. Only a few firms provide specific in-house training on procedures and standards on a systematic basis such as an orientation course for new hires.

4. TRAINING NEEDS OF THE AEBC FIRMS

4.1. DIRECTIONS FOR FIRM IMPROVEMENT

Survey respondents identified aspects of their business practices that could be “substantially improved/improved through training.” The most common themes were:

- Technical skills 100% of respondents
- Project management 100%
- Personnel management 100%
- Marketing 86%
- Financial management 76%
- Strategy & business planning 76%

Conversely, aspects of the firms that were felt to have “little/no potential for improvement through training” included:

- Client relationships 47% of respondents
- Teamwork 38%
- Leadership 29%

It is interesting to note that, based on the firm interviews, the firms that have the most systematic and thorough approach to training noted that further training in teamwork and communications would be beneficial, whereas those firms with relatively less comprehensive approaches tended to focus on more technical topics.

4.2. GENERAL TRAINING PRIORITIES

The survey asked respondents to identify the type of staff that would benefit most from training. Figure **Error! Not a valid link.** displays the results.

Figure 2: Groups “Very Likely/Likely To Benefit From Training”

(> 50% of survey respondents said “Yes”)

	Firm Managers	Work Group Managers	Project Managers	Architects	Engineers	Technical Support Staff
Financial Management	86%	62%	53%			
Project Management	91%	95%	100%	62%	72%	
Human Resource Management	95%	80%	67%			
Marketing & Business	100%	67%	52%			
Technical Skills		76%	95%	90%	100%	85%

Key

90 % – 100 %	
80 % – 89 %	
50 % – 79 %	
< 50 %	

Figure 2 can be interpreted in two ways; the personnel that would benefit most from training, and the training topics that were most often cited.

The **personnel** in AEBC firms believed to have the highest potential to benefit from training were firm managers (in Project Management, Human Resource Management, and Marketing Business Skills), all levels of managers (in Project Management Skills), and all levels of project personnel in Technical skills. These findings offer guidance for AEBC consideration. In the case of firm managers, it is easy to infer that respondents felt that further training in broad topics dealing with their businesses might positively influence the culture of their companies.

The **training topics** believed by the respondents to be the most broadly beneficial were Project Management and Technical Skills.

These training priorities, as defined by the survey, were further clarified by the personal interviews with AEBC member firm representatives.

4.3. OVERALL TRAINING NEEDS

As presented in Section 3, the characteristics of the AEBC firms vary greatly; thus, training needs and priorities of each firm will be different. Nonetheless, it is useful to AEBC to have a general sense of the topics that may be most fruitful to pursue for the collective benefit of the member firms.

Given the variation across the AEBC firms, the most productive way to identify training needs is by firm type, thus reflecting broad differences in firm staff composition, mix of work, and management capacity.

A summary of typical recommended training needs, by topic and firm type is presented in Figure **Error! Not a valid link..** This chart presents general training topic priorities and indicates their general applicability to the three categories of firms. For each topic, a judgment is offered as to the broad utility of the type of training to firms within each category as presented in Section **Error! Not a valid link..** Three levels of broad training utility are designated:

- **Likely to be highly useful** – broad topics that will typically be useful to most firms in each category.
- **Likely to be selectively useful** – topics that may be useful to some of the firms in each category, or that may be useful to certain types or levels of staff in any given firm.
- **Possibly useful** – relatively more specialized topics that may be useful to individuals within firms; often dealing with subject matter that may be highly specialized and may require a prior experience base in the subject matter or prior related training.

Figure 3: Summary of typical training needs, by topic and firm type

	Large A/E firms dealing with building and infrastructure	Large firms principally offering engineering services	Firms of intermediate to small size, principally specializing in building design and engineering
Number of Firms in Each Group	4	3	10
Central Office Staff	200 +	75 - 150	typically < 50
Technical Skills			
Basic software			
Advanced software			
Analytical, presentation, and communications skills for A/E			
Specialized engineering topics			
Specialized architectural topics			
Financial Management Skills			
Basics of firm budgeting, financial management and KPI*			
Integrated office financial management			
Specialized topics in office and project financial management			
Project Management Skills			
Contracts, subcontracts, and their relationship to projects			
Project management basics for A/E professionals			
Project management tools and software			
Specialized topics in time and team management			
Human Resource Management Skills			
Introduction to coordinated HR systems			
Job description and performance evaluation systems			
Employee retention, incentives, and recognition			
Career path, promotion, and succession in the A/E industry			
Marketing and New Business Development Skills			
Introduction to marketing for A/E firms			
Advanced marketing techniques and case studies			
Achieving the client-focused, customer centered organization			

* Key Performance Indicators

KEY:		Likely to be highly useful
		Likely to be selectively useful
		Possibly useful

The typical training needs are not intended to represent specific courses, but rather to describe topic areas for training. The remainder of this section offers some comment and amplification about these needs.

From the Internet survey as well as from in-person interviews, it is clear the nearly all firms have continuing interest in further training to deal with Technical Skills and Project Management Skills. Major needs are highlighted below.

4.3.1 Technical Training

Training in technical topics will continue to be in demand by the A/E sector to sharpen skills and achieve up-to-date knowledge. "Basic software" training may include standard document, spreadsheet, and presentation software, and CAD training. The latter is a continuing need, including adaptation to frequently updated versions of CAD, as well as training in more systematic and standardized ways of preparing CAD documents. "Advanced software" refers a broad set of applications, including, but not limited to, 3D visualization, presentation and modeling software, and specialized engineering analytical software, including topics such as structural analysis, mechanical systems, and hydrological and hydraulic analysis. "Analytical,

presentation, and communication skills for A/E” refers to a need mentioned by many interviewees, dealing not only with communication of complex topics but also with rational methodologies for analyzing complex problems and presenting outcomes and choices to clients. This topic may warrant development of new training materials, in as much as these types of communication skills can be overlooked in the technical education process and are often only learned on the job. “Specialized engineering topics” and “Specialized architectural topics” refer to a broad range of training content. Needs and demand for such specialized training will vary over time depending on emerging technologies and topics of interest. Recent examples include green building, sustainable design, LEED criteria, energy conservation, and high-rise buildings. Some technical topics deal with basic tools for junior staff whereas others deal with enhanced knowledge for seasoned professionals who are already in command of the basic tools of their disciplines. So many potential topics exist in this category that it is hard to generalize about the highest priorities, as priorities area likely to vary significantly by firm as well as in response to changing market conditions and pressures.

4.3.2 Project Management Training

Improved project management will continue to be a major need for growing firms in order to help them manage their workloads. Some firms need to master project management fundamentals whereas others need training as professional staff advance and take on increasing responsibilities. “Contracts, subcontracts and their relationship to projects” are critical to professional practice and have been addressed by some recent FIDIC training. This content is likely to be in regular demand. “Project management basics” refers to various types of training that increase the effectiveness of project managers. Although certified training exists for project management (e.g. –the Project Management Institute (PMI) Project Management Professional (PMP) designation) most of it is generic and is not oriented to the special technical and coordination needs of the A&E industry. Some course offerings such as the PSMJ “Project Manager’s Boot Camp” are specifically targeted to A&E professionals so they may be particularly well received. “Project management tools and software” refers to Microsoft Project, Primavera, and other proprietary project scheduling, budgeting, and tracking software that were used or mentioned by many survey respondents. Some focus on tracking construction projects, whereas others facilitate the design and production process for individual projects or for sets of projects. Finally, “specialized topics in time and team management” refers to a wide variety of possible specialized training topics to address both the process and technical aspects of professional practice.

Some of the AEBC member firms also need training to address Financial Management Skills, Human Resources Management Skills, and Marketing and New Business Development Skills. The specific needs are strongly influenced by firm size, organization, and business expertise. Training topics are summarized below.

4.3.3 Financial Management Training

The larger AEBC firms tend to have financial systems that have enabled them to grow and maintain control. “Basics of firm budgeting, financial management, and KPI” might encompass content that deals with needs of many smaller firms to develop expanded knowledge of basic guidelines and measurement methods that will help track the operating and performance characteristics of their businesses on a regular basis. For example, many smaller firms operate on a cash basis. They do not have reliable information or in-depth understanding of accrual methods of accounting that would allow them to track overall firm performance as well as project performance. “Integrated office financial management” would cover with the key principles of establishing reliable project cost accounting and reporting systems. For

example, it is surprising that many firms do not take advantage of software that can integrate personnel costs (through digital timesheet entry) and expense costs for the purpose of project and firm-wide accounting. Clearly, without a basic understanding of firm budgeting and financial management, firm managers may not be able to take advantage of integrated financial. Finally, “specialized topics in office and project financial management” refers to more sophisticated needs of firms that have already addressed the basics.

4.3.4 Human Resource Management training

Human resource systems are closely linked to the issues of staff retention that many firms mentioned in the interview. It is highly influenced by the size and administrative staff capabilities of the firms. Smaller firms have more modest resources to devote to systematizing and administering key HR functions compared to larger, more mature companies. For this reason “Introduction to coordinated HR systems” encompasses many types of potential course offerings that could be of interest to smaller firms. A real need in many cases is how to build a coordinated HR system step-by-step, or how to further systematize an initial system, without committing to costly software and administrative procedures that may only be applicable to large organizations. “Job description and performance evaluation systems” are of interest to many types of firms and can potentially range from the rudiments of setting up and maintaining personnel categories to more rigorous approaches of competency-based systems that are closely linked to training. The topic of performance evaluation was often cited in the Internet survey. Evaluation practices of the AEBC firms vary, ranging from closely held processes undertaken by firm owners to more transparent and regular “two-way” methods. Many firms, especially the smaller ones, want to improve how they handle this essential part of professional development and firm management. “Employee retention, incentives, and recognition” addresses a key concern to many AEBC firms; so training may be highly beneficial. Finally, “Career path, promotion, and succession in the A&E industry” is of broad interest to help firms of many sizes and types plan for the future.

4.3.5 Marketing and New Business Development Training

Improved marketing and new business development methods would be beneficial to many firms, although this topic was not a high priority of survey respondents. Business in Jordan is highly reliant on personal connections and reputation and many firms may not recognize that consistent and systematic marketing and business development can expand circles of influence and staff engagement. “Introduction to marketing for A&E firms” would encompass topics providing basic orientation to the elements of and purposes of marketing in the industry. Organizations such as the Society for Marketing Professional Services may offer useful resources that are targeted to the A&E sector. “Advanced marketing techniques and case studies” could encompass training content that would provide examples of particular approaches to marketing that might introduce new ideas and ways of orienting to clients and new business opportunities for the AEBC firms. Finally, “achieving the client-focused, customer centered organization” might incorporate some of the ways of thinking now being used in other industries to the A&E sector. Clearly, these types of topics would be progressively more complex and sophisticated and might proceed in sequence.

For many of the training topics, AEBC should seek out content providers who can adapt standard materials to the Jordanian professional, regional, and business context, potentially including case studies that can illustrate how basic principles have been applied.

A last topic that was not mentioned in the survey but that is quite current is the desire of many firms for additional assistance with business and strategic planning. SABEQ's ongoing technical assistance initiative to the AEBC firms is and will continue to be an important contribution to this need. For the larger and more sophisticated AEBC companies this may be less of a need for training than for consulting expertise.

5. AVAILABLE TRAINING RESOURCES

5.1. OVERVIEW OF TRAINING RESOURCE INVENTORY

5.1.1 Purpose and Structure

The Training Resource Inventory focuses on internationally certified Training Resources that can assist Jordanian A&E firms to manage their businesses and remain technically competitive in the international arena. It covers the following topics:

- **Certification of Training Resources** – the role and working definition of certification in the context of professional training and education.
- **Categories of Training Resources** – various types of training resources that are relevant to the professions supported by the AEBC.
- **Delivery Modes for Training Content** – review of delivery methods for providing training.
- **Inventory of Resources** – examples of specific potential training resources.

Combined with the assessments of Training Needs of the AEBC firms, the Training Resource Inventory will be a foundation element in crafting a Training Strategy that will be suitable for the AEBC and its member firms.

5.1.2 Certification of Training

The AEBC and its member firms need to assure that training will be high quality (e.g. - content that is relevant and up-to-date for the architecture and engineering professions and provided by skilled, qualified instructors) and that it will enhance the competencies of participants to perform their jobs. International certification is one way of recognizing the professional quality of training content, providing credibility when the courses are cited to external parties.

Therefore, for the purposes of this assignment, the inventory includes “certified training” that is recognized by national/international professional associations and/or accreditation or licensing bodies as suitable for maintaining and enhancing skills and knowledge of professional architects and engineers as well as those in related professions. Often such courses are recognized by such associations or licensing bodies as fulfilling specific professional requirements such as Continuing Education Units (CEUs) or recognition for attaining levels of professional competence.

Some countries rely on national and local professional associations to handle this task. For example, the American Institute of Architects (AIA) certifies training resources and content for the architectural profession in the U.S. American professional associations for architects and engineers and state agencies get their legitimacy from strict licensing requirements for these professions that require individuals to fulfill defined educational achievements at professionally accredited institutions, defined minimum periods of practical experience, and passage of stringent licensing examinations in order to be recognized as professional architects and engineers. Another example is the FIDIC (International Federation of Consulting Engineers) is an international organization that serves a parallel function for engineers in the European Union and beyond.

Certification is different from licensing. The term **licensing** refers to legal certification - assurance that those who identify themselves as “professionals” have the competencies to perform the functions of that profession. Licenses are issued by national or local jurisdictions that each has requirements to maintain them. Typically, licenses must be renewed periodically, and licensed professionals must obtain a specified number of **certified** training hours in order to secure renewal.

Currently, Jordanian A&E professionals must register with the Jordanian Engineering Association, which represents and monitors the professions. However, there is no equivalent in Jordan to the U.S. practice of licensing Registered Architects (RA) or Professional Engineers (PE). Since there is no professional licensing requirement in Jordan for architects and engineers, no one agency can “certify” that a particular course or content is essential to maintaining core competencies required for maintenance of licensure. For this reason, a useful benchmark for training resources is whether they are **certified in national or international contexts** across the world.

In addition to certification of individual courses or training content, some training providers offer recognition for completion of **sets** of courses/seminars, issuing Special Certificates when students complete a comprehensive curriculum and provide evidence that they have mastered the material. Examples in the Resource Inventory include the Certificate on Engineering Management offered by Engineering Management Certification International, sponsored by the American Society for Mechanical Engineers, the Project Management Professional (PMP) certificate offered by the Project Management Institute, or the Professional in Human Resources Certificate offered by the Society for Human Resource Management

5.1.3 Types of Training Resource Organizations

For this project, the research on training resources was web-based and oriented to international organizations that either provide certified direct training or offer significant linkages to certified training resources for architects, engineers and/or associated business managers. Training provider organizations are classified into two distinct groups:

1. **Organizations that focus specifically on the architectural and/or engineering professions** -- These organizations offer some of the most relevant and targeted information about the technical and business aspects of the professions and include two very different types of organizations that offer rather different products:
 - a. *Architecture/engineering professional associations that support professional standards of practice and offer training resources to strengthen professional skills.* These organizations have broad mandates that focus on promoting the value of individual professions (e.g. architecture, civil engineering, mechanical engineering) and assuring that professional practice maintains a high standard. Training and publication of research resources form only a part of their mandates. Examples of such professional associations include international entities such as the International Federation of Consulting Engineers (FIDIC)², regional entities such as the Federation of Arab Engineers that focuses on the Middle East, and national professional entities such as the American Institute of Architects (AIA) or the Royal Institute of British Architects (RIBA).
 - b. *Companies that specialize in training for architects/engineers and related professions.* These organizations are in business to provide training and resources that architects, engineers and construction professionals need. Some of them also conduct research on behalf of the field. Some specialize in the provision of **technical** information and strengthening of skills, but offer few programs or written resources on management issues (e.g. Red Vector). Others specialize in provision of **management** training courses, reports, and services for the A&E professions (e.g. Zweig-White, PSMJ Resources, and Engineering Management Certification International).

² All organizations referred to in this section are further described in Appendices 1 and 2 to this report.

2. **Educational and training organizations that specialize in management training for all businesses regardless of professional affiliation** -- These types of organizations do not specifically target the A&E professions, although relevant training content may apply to A&E businesses and professionals. They provide resources and training for management and human resource professionals. Examples include the American Management Association and the Society for Human Resource Management. These organizations often provide certification for completion of courses of study and attainment of levels of proficiency.

As the Jordanian Engineering Association and its Engineering Training Center are well known to local professionals, they were not included in the inventory. The inventory was limited to training resource organizations that:

- Offer an internationally-recognized certification, such as certification in the host country or recognition by an organization with international membership.
- Have experience providing training in international venues.
- Offer training in Arabic or English.

5.1.4 Delivery Modes for Training Content

Another important dimension of training is the “delivery mode.” In-person seminars and conferences form the traditional method of training. This approach offers the advantages of personal interaction among trainers and participants, “networking” opportunities for the participants, and may include visits to architecture and engineering projects around the world. However, since few of the international seminars take place in Jordan, local architects and engineers typically travel elsewhere to participate. The direct and indirect costs can be quite high – including fees for training programs, travel and per diem expenses, and the opportunity costs of absence from work.

In recent years, opportunities for web-based, on-line learning have expanded dramatically, taking advantage of higher bandwidths that can be provided via the internet. Fees are charged, but participants can work from their own offices. Several types of training are available:

- **Self-study courses.** Some courses are pre-packaged self-study programs that allow a learner to review material at his/her own pace and demonstrate mastery through on-line testing (e.g. FIDIC, Kaplan AEC Education).
- **On-line seminars and “webinars.”**³ This method offers an expert trainer during a specified time period. Learners purchase access to the seminar and log in to an Internet site for the presentation and to participate. Programs are often interactive. Sometimes these sessions are recorded and the proceedings can be purchased for later use (e.g., Red Vector, the Society for Marketing Professional Services).
- **“E-casts”.** Another version of the webinar is the “e-cast” in which an expert is available to provide on-line advice (e.g. PSMJ Resources).
- **Knowledge Community.** Here, participants subscribe to ongoing discussions and information sharing about specific topics. The “community” may offer on-line publications, referrals to special in-person meetings or seminars as well as on-line discussions (e.g. American Institute of Architects).
- **Blended training.** Since there are advantages to both in-person and on-line learning, some organizations offer combined programs (e.g. FIDIC).
- **On-line publications and toolkits.** Many resources are available in “downloadable” format, either for purchase or at no charge (Royal Institute of British

³ “Webinar is a web-based seminar.

5.2 DESCRIPTION OF THE RESOURCE INVENTORY AND CLASSIFICATION

The detailed Resource Inventory provides illustrations of training providers and related training resources for each of the two types of organizations defined above. **Appendix 1** includes a list of resource organizations followed by a brief narrative summary about each training provider. **Appendix 2** includes comparative charts that provide a quick overview of the salient features of the selected organizations, including content, mode of delivery, and cost of training, where available. For each training resource organization, the following information is provided:

- Overview of the mission of the organization and the role of training services within that context
- Home country
- Geographic focus of training
- Target audience of professionals
- Content of training offered by the organization
- Modes of training
- Typical cost of training, where available
- Special certificates and/or professional recognition offered by the organization.

5.2.1 How to Use the Resource Inventory

AEBC will be able to refer to the inventory to initiate more in-depth research about training, to direct training from providers in person, or perhaps by webinar delivery. Additionally, resource materials could be obtained for AEBC members. Individual firm members of AEBC could use the inventory to identify options that are most suitable for the specific needs of their firms. Websites for many of these examples include links to other relevant options.

Successful training experiences are likely to be a function of the care taken to select providers and content appropriate to the local context. Users who wish to obtain training from a specific provider can go directly to the web address for each provider included in the Inventory. Users will find that some providers offer pre-packaged training courses that require registration and others provide in-house, on-site programs through special arrangement. Some organizations offer research resources – via download, on-line, web-based content, or in hard copy.

This Resource Inventory does not constitute an endorsement of any individual provider or training course. Although all organizations are reputable and meet the criteria defined above, the specific effectiveness of any training experience is highly dependent on the individual(s) trainers and participants and the ability of the provider to calibrate content and presentation to the audience.

5.2.2 Limitations of the Inventory

A vast array of relevant training offerings is available throughout the world, and a “complete” listing of such resources is beyond the scope of this assignment. Accordingly, the approach that has been taken to the resource inventory is strategic, oriented to the particular needs of AEBC and its member firms and to categories of training resources that seem most promising. In recognition of the overwhelming options for training, the Inventory includes a few examples of organizations that specialize in **referrals to certified training resources** (e.g. EPICconnection, American Institute of Architects.)

As an illustration of the depth of resources, the American Institute of Architects (AIA), the professional organization in the U.S. that represents the architectural profession, has standards for certifying providers of Continuing Education and has minimum requirements of Continuing Education Units (CEU) that are required for architects to maintain membership in the organization. The AIA lists 2,602 authorized **providers** of continuing education content, including 62 international sources. Most of AIA's content providers offer a broad variety of programs as illustrated by AIA's current inventory of 6,467 **program listings**. A guide to the training resources referred to by this one organization can be found at http://www.aia.org/ces_cesdirectories. Many other international organizations offer training resources of similar complexity and richness.

5.2. KEY TRAINING RESOURCE OPPORTUNITIES AND PRIORITIES

Figure 4 shows the relationship between the categories of training needs identified in Section 5 and the Training Resource Providers identified in this section. Although this chart does not specifically correlate each provider to specific sub-topics, the information in Appendix 1 and 2 provides an initial point of access to readers in exploring the best training opportunities to meet specific needs.

Figure 4: Relationship Between Types of Training Needs and Training Resource Providers

TYPES OF TRAINING NEEDS	Arch./Eng. Professional Associations	Training organizations (Focus on A/E firms)
	TYPE IA:	TYPE IB
TECHNICAL SKILLS:	American Institute of Architects (AIA)	AIA authorized providers *
Basic software, Advanced software, Analytical presentation, and communications skills for A. Specialized engineering topics, Specialized architectural topics	AIA authorized providers *	Kaplan AEC Education
	Center for Study of Built Environment	Red Vector
	Federation of Arab Engineers - UAE	
	Society of Engineers	
	FIDIC	
	Institute of Civil Engineers	
	National Center for Construction Education and Research	
	RIBA (Royal Institute of British Architects)	
FINANCIAL MANAGEMENT	AIA authorized providers	AIA authorized providers *
Basics of firm budgeting, financial management and KPI*, Integrated office financial management, Specialized topics in office and project financial management	EPICConnection	Engineering Management Certification International
	Federation of Arab Engineers	Kaplan AEC Education
	FIDIC	PSMJ
	Institute of Civil Engineers	Red Vector
	Natl. Center for Construction Education and Research	ZweigWhite
	RIBA	
PROJECT MANAGEMENT	AIA	AIA authorized providers *
Contracts, subcontracts, and their relationship projects, Project management basics for A&E professionals, Project management tools and software, Specialized topics in time and team management	AIA authorized providers *	Engineering Management Certification International
	EPICConnection	Kaplan AEC Education
	Federation of Arab Engineers	PSMJ
	FIDIC	Red Vector
	Institute of Civil Engineers	ZweigWhite
	Natl. Center for Construction Education and Research	
	RIBA	
HUMAN RESOURCE MANAGEMENT	Federation of Arab Engineers	Engineering Management Certification International
Introduction to coordinated HR systems, Job description and performance evaluation system Employee retention, incentives, and recognition Career path, promotion, and succession in the industry	RIBA	PSMJ
		Red Vector
		ZweigWhite
MARKETING & NEW BUSINESS DEVELOPMENT	AIA	Engineering Management Certification International
Introduction to marketing for A/E firms, Advanced marketing techniques and case studies Achieving the client-focused, customer centered organization	AIA authorized providers	PSMJ
	EPICConnection	Red Vector
	FIDIC	Society for Marketing Professionals
		ZweigWhite
	Institute of Civil Engineers	

* see EPICConnection

6. SUMMARY RECOMMENDATIONS AND NEXT STEPS

6.1. FOR AEBC

Based on this Training Needs Analysis, the AEBC should take the following actions:

1. **Continue to facilitate and organize targeted training courses that respond to needs of its members.** Member firms were highly supportive of the role that AEBC has played in the past and believe that continuation of these training activities will be beneficial to member firms, to individuals, and to the A&E professions. AEBC should focus on training needs not currently being met in Jordan and on top-priority areas mentioned by the AEBC members. AEBC should continue to bring in outside experts who can deliver certified training through in-person sessions. They provide an outside perspective and create added value for its members in expanding business efficiency, competitiveness, and productivity.
2. **Identify specific target audiences for training activities.** Some firm representatives commented that prior AEBC facilitated training was either overly general or overly specific for some attendees. Although this problem can never be fully eliminated, given the diverse capabilities and experience levels of potential attendees, AEBC should do enough advance work to understand the level of content of each prospective training program. The range of capabilities of the AEBC firms demonstrates quite clearly the need for this type of communication.
3. **Use the wealth of on-line resources.** More and more training content will become available on the web and AEBC can potentially facilitate access to such materials. For example, webinars, where two-way communication can occur between trainers and participants, would have to be structured at appropriate times that work in Jordan and at the location where the trainers are stationed. The AEBC, representing a large professional community, should be able, for the right kind of content, to deliver a large enough group of participants to enable special scheduling.
4. **Ask training providers to use case material that reflects the business, design, and construction environment in Jordan and the Middle East.** Often, training for technical and business topics is oriented to conditions in the home country of the training provider. Ideally, training sessions for AEBC members should include locally relevant content arrangements should reflect conditions of the training consumers, the AEBC members.
5. **Consider collecting data that could be useful in local benchmarking.** Beyond specific training courses, AEBC could further serve its members and the professions by collecting data that assists firm managers to develop a comparative understanding of how their practices relate to the industry as a whole. In the U.S., for example, many entities collect and promulgate data on key performance indicators and metrics of A&E firms. Such data, aggregated to protect confidentiality, can be highly useful to managers in determining how their own structure of benefits, wages, and other aspects of firm operations relate to local norms.
6. **Facilitate training that takes advantage of technical resources in the construction and building material industry.** A number of firms mentioned that manufacturers and representatives of building product manufacturers have been willing to visit firms to demonstrate products and discuss key principles that should be applied when their products are used or specified. This type of presentation can be highly useful, but might be pursued on a basis where multiple firms could attend. As an example, the AIA in the U.S. provides Continuing Education Units for attendees at product supplier

presentations; however, in order to be recognized as a CEU provider, a supplier or manufacturer must devote at least 75% of its presentation to generic, as opposed to proprietary or product-specific information, about how, why, and where products should be used.

6.2. FOR THE AEBC MEMBER FIRMS

As an integral part of the Training Needs Assessment, the project team collected data from AEBC member firms through surveys and direct interviews. This data was limited and the interviews were of limited duration. Based on this interaction, the project team was asked to provide comments and directions to each individual participating firm. These brief comments will be shared with AEBC to provide insight to the organization about its member firms and will be provided to the participating firms. However, this information is considered to be confidential and is not included in this document.

AEBC member firms may elect to directly initiate training with provider organizations identified by this Training Needs Analysis; subject to the same caveats referred to in the preceding section.

6.3 FOR THE JORDAN ECONOMIC DEVELOPMENT PROGRAM (SABEQ)

In general, the AEBC member firms have found the assistance provided through SABEQ through the AEBC useful and an important supplement to local experience and practice. SABEQ should continue to support the AEBC in its mission and encourage expansion of the entity through recruitment of more firms as expansion of its technical assistance role.

APPENDIX 1: OVERVIEW OF KEY TRAINING RESOURCE PROVIDER ORGANIZATIONS

The Inventory of Training Resource Providers includes detailed profiles of 20 illustrative provider organizations and an overview chart that highlights the attributes of each provider to help AEBC and its firms to determine which providers it can contact to address various needs. The list of organizations is provided below, followed by the single page summary of key characteristics of each organization.

Type I. Organizations That Provide Training To Architects, Engineers & Professionals In Related Fields – these include architectural and engineering professional associations and specialized training and content providers to the A & E professions

American Institute of Architects (aia.org)
Center For The Study Of The Built Environment (csbe.org)
Engineering Management Certification International (engineeringcertification.org)

EPIConnection (epiconnection.org)
Federation of Arab Engineers (uaesocietyofengineers.com)
FIDIC -International Federation of Consulting Engineers (fidic.org)
Institution Of Civil Engineers (ice.org.uk)
Kaplan AEC Education (kaplanaecarchitecture.com; kaplanaecengineering.com)
National Center For Construction Education & Research (nccer.org)
PSMJ Resources (psmj.com)
Red Vector (RedVector.com)
Royal Institute Of British Architects (architecture.com)
Society For Marketing Professional Services (smjs.org)
Zweig-White (zweig-white.com)

Type II. Organizations That Provide Generalized Training On Management And Human Resources for all Types of Businesses

American Management Association (amanet.org)
Excellence, Inc. (excellenceinc.org)
Institute of Management Consultants Usa (imcusa.org)
Project Management Institute (pmi.org)
Society For HR Management (shrm.org)
Compubase International (compubase.com.jo)
Derayah Academy (derayah.net)
Executrain (executrain.com)
Intrinsic Management (Intrinsic-management.com)
Knowledge Kingdom (knowledgekingdom.com.jo)
Method (methodcorp.com)
Optimiza Academy (optimizasolutions.com)
Tanweer (etanweer.com)
Windows For Technical & Managerial Consultation (windowstmcc.com)
Trainedge (train-edge.com)

TYPE IA. Architecture/engineering professional associations that support professional standards and offer training resources to enhance professional practice

AMERICAN INSTITUTE OF ARCHITECTS

aia.org

AIA is the leading US professional membership organization for licensed architects, emerging professionals and allied partners. It oversees licensing exams for the profession, establishes criteria for licensure renewal, and recognizes continuing education providers whose offerings meet the criteria for licensure renewal. It also prepares numerous publications, sponsors annual conferences, conducts market research, provides analysis of the economic factors shaping the business of architecture, and serves as an advocate for the architecture profession.

- Reason for Inclusion in Inventory – internationally-recognized resource for architects
- Home Country – United States of America
- Geographic Focus of Training – USA, multi-national, Jordan (occasional special meetings on topics of international interest)
- Target Audience – architects and related staff
- Content of training (most through approved training providers)
 - Technical architecture skills and knowledge
 - Environmental management/sustainability
 - Health and safety issues
 - Strategic and business planning
 - Project management
 - Marketing/business development
 - Leadership development
 - Risk management
- Modes of training
 - In-person with expert trainer (conferences in US, multi-national sites)
 - On-line courses and publications
 - Knowledge communities
 - Referrals to certified training providers
- Cost of training - Per hour per person: \$25-74 – depends on certified provider
- Special Certification/Recognition
 - Establishes criteria for license renewal - 18 hours per year of continuing education including at least 8 hours of health and safety training. Maintains registry of continuing education for its licensed architect members.
 - Recognition of achievement in the profession through special membership categories and awards (e.g. honorary membership for those outside the architecture profession, Associate membership for those architects not yet licensed, full membership for licensed architects, Fellowships and Honorary membership for high levels of achievement)

CENTER FOR THE STUDY OF THE BUILT ENVIRONMENT
csbe.org

This study and research institution addresses the challenges of the built environment in Jordan. Activities include research projects, publications, and design and implementation of pilot projects. Studios and occasional workshops support the research mission.

- Reason for Inclusion in Inventory- research center in Amman
- Home Country – Jordan
- Geographic Focus of Training – Jordan
- Target Audience –architects, engineers, construction professionals and those in related fields
- Content of training
 - Technical information related to architecture, landscape design, engineering
 - Environmental management/sustainability
 - Construction technologies
 - Urban planning
- Modes of training
 - Workshops/laboratories
 - E-publications
- Costs
 - Workshops/laboratories - \$2.35/person/hour (subsidized through grants)
 - E-Publications - free
- Special Certification/Recognition - none

EPICconnection (Education/Practice/Industry Connection)
Epiconnection.org

It advances education of design professionals by serving as a clearinghouse for/portal to in-person and on-line training, research, educational degree programs, training materials, qualified speakers and trainers. It maintains a database of training providers that are AIA-certified continuing education providers.

- Reason for Inclusion in Inventory- source of referrals to training resources
- Home Country – United States of America
- Geographic Focus of Training – USA
- Target Audience –architects; construction professionals

- Content of training. Referrals to resources regarding:
 - Technical skills
 - Environmental management/sustainability
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Technology

- Modes of training - Referrals to many types of training resources

- Cost of referrals – no charge

- Special Certification/Recognition - none

FEDERATION OF ARAB ENGINEERS
uaesocietyofengineers.com

It is the major professional association for engineers across the Middle East. It has broad goals including boosting the status of the engineering profession, enhancing professional skills and regulating professional practice, recognition of special contributions of the Arabic engineering heritage, and research about special engineering issues in the Arab countries. One component of its work is a set of training courses.

- Reason for Inclusion in Inventory –training resource for engineers in the Middle East, with an affiliate in Jordan
- Home Country – United Arab Emirates
- Geographic Focus of Training – Middle East
- Target Audience – engineers and construction professionals and related staff
- Content of training
 - Technical engineering/construction skills and knowledge
 - Environmental management/sustainability
 - Health and safety
 - Financial management
 - Project management
 - HR management
 - Leadership
 - Business communication
 - Technology
- Modes of training
 - In-person methods – seminars and conferences in home country and at multi-national sites
 - Resources – referrals to suppliers and firms
- Cost of training
 - Seminar/conference per hour per person: Free to \$45/hour
 - No charge for referrals
- Special Certification/Recognition – none, different levels of membership according to education and experience

FIDIC (INTERNATIONAL FEDERATION OF CONSULTING ENGINEERS)

fidic.org

It strives to enhance the image of the consulting engineering industry at the global level. It promotes ethical practice and the business interests of firms supplying technology-based services for the built and natural environment. Its strategies include provision of training in collaboration with member associations as well as extensive management and professional practice resources.

- Reason for Inclusion in Inventory – internationally-recognized training resource on business practices for engineers
- Home Country – Switzerland
- Geographic Focus of Training – Multi-national
- Target Audience – consulting engineers

- Content of training
 - Technical engineering skills and knowledge
 - Environmental management and sustainability
 - Health and safety issues
 - Law and Contracts
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Leadership development and transition
 - Communication skills
 - Inter-cultural work

- Modes of training
 - In-person methods with expert trainer (seminars and conferences; certificate programs; on-site training can be arranged)
 - On-line courses – including on-line courses blended with in-person training
 - Research resources – books, articles

- Cost of training
 - Per person/hour for conference - \$130
 - On-site training – no costs listed; can be negotiated
 - Certificate Program - \$4000 – number of hours not listed
 - Publications - \$15 - \$150, some compilations exceed \$500

- Special Certification - Young Professionals Management Certificate Program

INSTITUTION OF CIVIL ENGINEERS (ICE)
ice.org.uk

It promotes the value of the profession of civil engineering as well as high standards for practice. It serves as a center for the exchange of knowledge and an international provider of training and research resources to encourage innovation and excellence. It also promotes the value of civil engineering to government, industry and other stakeholders in the creation of a sustainable natural and built environment.

- Reason for Inclusion in Inventory – internationally-recognized training resource for civil engineers
- Home Country – United Kingdom
- Geographic Focus of Training – United Kingdom and international settings
- Target Audience – civil engineers

- Content of training resources
 - Technical engineering skills and knowledge
 - Environmental management and sustainability
 - Health and safety issues
 - Law and Contracts
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Leadership development

- Modes of training
 - In-person methods with expert trainer (group seminars in the UK; on-site training can be arranged; consultation)
 - Distance learning courses
 - Research resources (extensive library of on-line publications about civil engineering and construction available free of charge, some publications for sale)

- Cost of training
 - Per seminar - \$400 per person (No. of hours not specified)
 - On-site training – no costs listed; can be negotiated
 - Books: \$35 - \$225
 - On-line library — many items available free of charge

- Special Certification
 - Completion of specialized curriculum: Construction Skills Certificates – 4 levels awarded according to completion of special exams and level of experience
 - Recognition of levels of education and experience – 5 levels of membership in the Institute depending on levels of education and experience from Student to Fellow

KAPLAN AEC EDUCATION

kaplanaecarchitecture.com/kaplanaecengineering.com/kaplancontracting.com

It offers preparation packages for licensing/registration exams in architecture, engineering and construction as well as on-line course modules that support continuing education in all fields. It is an AIA-certified continuing education provider.

- Reason for Inclusion in Inventory – on-line training resource for A/E/C professionals
- Home Country – USA
- Geographic Focus of Training - USA
- Target Audience – architecture, engineering and construction professionals
- Content of training
 - Technical skills and knowledge
 - Environmental management and sustainability
 - Health and safety issues
 - Financial management
 - Risk management
 - Project management
 - Time Management
 - Client management
 - Quality management
- Modes of training
 - On-line courses – the courses include presentations of materials, references, reading assignments and on-line examinations that demonstrate mastery of the information
 - Resources – books, CDs
- Costs
 - Per person/hour – \$25
 - Resources: \$35 - \$200

**NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH
(NCCER) nccer.org**

Its mission is to address the critical workforce shortage facing the construction industry and to assure that professionals in the construction field are aware of up-to-date techniques, materials and safety practices. It develops industry-driven and standardized craft training programs with portable credentials. It offers accreditation, instructor certification, standardized curriculum suitable for instructors and students, a national registry, assessment tools, and certification of participants. It also supports career development and recruitment efforts for the industry.

- Reason for Inclusion in Inventory – training resource for construction professionals
- Home Country – USA
- Geographic Focus of Training - USA
- Target Audience – construction professionals

- Content of training
 - Technical skills and knowledge
 - Environmental management and sustainability
 - Health and safety issues
 - Financial management
 - Project management
 - Communication skills
 - Leadership development

- Modes of training
 - Individual courses and certificate programs - In-person courses in USA
 - On-line courses –
 - Training of Trainers
 - Resources – publications and interactive materials; guides for trainers, curricula for students; skill assessment tests

- Cost of training
 - Per person/hour – 60 hour courses: \$37/hr; 24 hour course: \$54/hour
 - Resources: \$15 - \$125 depending on length of program

- Special Certification
 - National Craft Assessment Certification
 - Masters degree at Clemson University

REDVECTOR
Redvector.com

RedVector offers online education to the engineering, architecture, interior design construction, land surveying, building inspection and landscape architecture industries. Most offerings focus on technical information and skills, but some management –related courses are available too.

- Reason for Inclusion in Inventory- specialist in on-line learning
- Home Country – United States of America
- Geographic Focus of Training – USA and 22 other countries
- Target Audience –architects, engineers, construction professionals and those in related fields
- Content of training
 - Technical skills
 - Environmental sustainability
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Human resource management
 - Time Management
 - Client management
- Modes of training
 - On-line courses and “web-in-ars”
 - Customized offerings can be delivered in-house
- Costs
 - Per person/hour for on-line seminars: \$30 - \$50
- Special Certification/Recognition - certificate programs in construction supervision, project management & finance, electrical safety and national electric codes

ROYAL INSTITUTE OF BRITISH ARCHITECTS

architecture.com

This is the professional association for architects in the United Kingdom. It advances the profession by acting as a champion for the field of architecture, advocating for a better environment and promoting excellence in the profession. One component of its work is the direct provision of training and training resources. It establishes standards for continuing education for architects and certifies training providers. It also has an extensive public relations and advocacy component, provides referrals for those seeking architectural services and supports research and inquiry.

- Reason for Inclusion in Inventory – internationally-recognized training resource for architects
- Home Country – United Kingdom
- Geographic Focus of Training – United Kingdom
- Target Audience – architects
- Content of training
 - Technical architecture skills and knowledge
 - Health and safety issues
 - Law and Contracts
 - Strategic and business planning
 - Human resource management
 - Financial management
 - Project management
 - Marketing/business development
 - Time management
 - Communications
 - Client management
- Modes of training
 - In-person methods with expert trainer (conferences in the UK)
 - On-line courses
 - Research resources (extensive library of on-line publications available free of charge, publications for sale)
 - Referrals for consultants
- Cost of training
 - Per hour per person: \$35
 - On-line courses – many are free of charge
 - Books: \$30 - \$150
- Special Certification /Recognition
 - Establishes criteria for license renewal - 19.5 hours per year of continuing education from core curriculum in 5 areas including at least 2 hours of health and safety training. Maintains registry of continuing education for its licensed architect members.
 - Many awards for excellence in the field and fellowships

TYPE IIA. *Education/training organizations that specialize in management programs for architects/engineers and related professions*

**ENGINEERING MANAGEMENT CERTIFICATION INTERNATIONAL
(EMCI) engineeringcertification.org**

Sponsored by the American Society for Mechanical Engineers, EMCI is a certification program based on the in order to establish global standards in engineering management. It offers certification for those who complete a curriculum and pass an examination, certification of training providers who meet standards of excellence, and resources for ongoing learning.

- Reason for Inclusion in Inventory – internationally-recognized **management training** resource for engineers
- Home Country – United States of America
- Geographic Focus of Training – USA, some multi-national work
- Target Audience – engineers

- Content of training
 - Strategic and business planning
 - Human resource management
 - Financial management
 - Project management
 - Marketing/business development
 - Technology
 - Leadership
 - Risk Management

- Modes of training
 - In-person methods with expert trainer (seminars in the US)
 - On-line courses
 - Research resources (publications for sale, including the EMCI™ Body of Knowledge (EMC-BOK™ that codifies management practices in engineering

- Cost of training
 - Per hour per person: up to \$75
 - Publications: up to \$100

- Special Certification - Two levels based on completion of specified curriculum and exam (\$500 fee for application and exam)
 - Certification of Engineering Management Fundamentals
 - Certification of Engineering Management Professional

PSMJ RESOURCES

psmj.com

PSMJ is a certified training provider with a specialty in A/E/C firm management. It conducts educational seminars and conferences, offers many book, audio, and video resources and publishes newsletters on management issues. It also produces the industry's preeminent annual surveys on management salaries, financial performance and fees and pricing.

- Reason for Inclusion in Inventory- specialist in **management** training for A/E/C
- Home Country – United States of America
- Geographic Focus of Training – USA, UK, Australia
- Target Audience –architects, engineers and construction professionals

- Content of training
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Ownership transition
 - Buying/selling an A/E firm
 - Human resource management
 - Public works/public sector issues

- Modes of training
 - In-person seminars
 - On-site training
 - Consulting
 - “E-casts” – on-line advice
 - Resources – publications, CDs, newsletter

- Costs
 - Free – tools for financial management; “e-casts
 - Per person/hour for seminars: \$100 - \$150
 - Resources - \$70 - \$600 depending on length

- Special Certification/Recognition - none

SOCIETY FOR MARKETING PROFESSIONALS
smps.org

SMPS' mission is to advocate for, educate, and connect leaders in the building industry. It focuses on sharpening skills, pooling resources, and collaboration to create business opportunities. It offers an annual marketing and management conference, seminars and workshops, awards programs, publications, and educational resources to highlight the latest trends and best practices in marketing and business development in the design and construction industries.

- Reason for Inclusion in Inventory- specialist in training on business development and marketing
- Home Country – United States of America
- Geographic Focus of Training – USA and Canada
- Target Audience –architects, engineers, planning, interior design and construction professionals and those in related fields

- Content of training
 - Marketing research
 - Marketing plans
 - Client and business development
 - Proposals and statements of qualifications
 - Promotional activities
 - Staff recruitment and retention

- Modes of training
 - In-person seminars and conferences in U.S.
 - “Web-in-ars” – 1.5 hours apiece
 - Resources: publications, pre-recorded “web-in-ars”

- Costs
 - Per person/hour for in-person events: \$75
 - “Web-in-ars” - \$160/hour for access – unlimited number of participants – 1.5 hours
 - Resources: \$10-\$300

- Special Certification/Recognition – Certified Professional Services Marketer – awarded to those who pass the CPSM exam

ZWEIGWHITE
zweigwhite.com

ZweigWhite provides business information, training and expertise to Architecture, Engineering, and Construction firms. Products and services include print and online magazines, market research reports, benchmarking and competitive data, newsletters and news services, management education programs, conferences and expositions, and consulting services.

- Reason for Inclusion in Inventory- specialist in **management** training for architects and engineers
- Home Country – United States of America
- Geographic Focus of Training – USA and other countries; training has been delivered in Jordan through AEBC
- Target Audience –architects, engineers, construction professionals and those in related fields
- Content of training
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Human resource management
 - Leadership development
 - Technology
 - Valuation of Firms and Ownership Transition
 - Management of Growth
- Modes of training
 - In-person seminars at multi-national sites
 - “Web-in-ars”
 - Customized offerings can be delivered in-house
 - Knowledge community
 - Resources: publications, videos
- Costs
 - Per person/hour for in-person or on-line seminars: \$100+
 - Resources: \$150-\$245
- Special Certification/Recognition - none

*TYPE II. Organizations that offer training resources to enhance management practice **regardless of the type of business.***

AMERICAN MANAGEMENT ASSOCIATION
amanet.org

AMA provides managers and their organizations worldwide with knowledge, skills and tools to improve business performance, adapt to a changing workplace and prosper in a complex and competitive business world. AMA serves as a forum for the exchange of information on management practices and business trends, conducts research, disseminates content and offers training.

- Reason for Inclusion in Inventory- specialist in **management** training
- Home Country – United States of America
- Geographic Focus of Training – Regions throughout the world, including Management Center Europe which covers Europe and the Middle East
- Content of training
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Human resource management
 - Leadership development
 - Technology
 - Cultural competence
- Modes of training
 - In-person seminars/conferences
 - Self-study courses
 - Blended learning – on-line plus live instruction
 - E-coaching
 - Customized offerings can be delivered in-house
 - Resources: books, self-study courses
- Costs
 - Per person/hour for in-person: \$110 - \$150
 - Per person/hour for on-line seminars: \$20
 - Resources: \$25+
- Special Certificate/Recognition – AMA Corporate Certificates earned for completion of courses in areas of learning

COMPUBASE INTERNATIONAL

compubase.com.jo

CompuBase International was established in 1998 in Amman offering computer training and certification programs through a wide range of courses for beginners, intermediate and advanced users, as well as IT professionals.

The flexible approach adopted by CompuBase is intended to address rapidly changing market conditions and to meet the demands of the business and technology field. The company has expanded its services portfolio to include ICT, soft skills, business skills, and graphics design training.

- Content of training:
 - Information and Communication Technology (ICT) Training
 - Graphics Design Training
 - Soft and Business Skills
 - Expand Your Business (EYB) Program:
 - √ EYB Partner Institution for the International Labor Organization (ILO)
 - √ Program outline:
 - ❖ Strategic Management (SM)
 - ❖ Strategic Marketing Management (SMM)
 - ❖ Strategic Human Resources Management (SHRM)
 - ❖ Strategic Financial Management (SFM)
 - Business Edge Program:
 - √ Business Edge Training Partner for the Business Edge (BE) program which was introduced by the International Finance Corporation (IFC)
 - √ Business Edge Workshops:
 - ❖ Human Resource Management
 - ❖ Finance & Accounting
 - ❖ Personal Productivity Skills
 - ❖ Marketing Management
 - ❖ General & Operations management
- Modes of training:
 - In-person training sessions
 - Training courses are also offered on site where staff can provide either standard or customized courses based on your company and staff needs.
 - Small group classroom training; one-to-one training; and training in the company's location.
 - The variety of learning options at CompuBase allows you to learn in the manner that best suits your schedule, budget, learning style and expertise.
 - Resources: Authorized training and curriculum material.
- Special Certification:
 - CompuBase is an Authorized Testing Center by Prometric and VUE covering certification exams for more than 34 international vendors' certification. The list includes Microsoft, Lotus, Novell, Compaq, HP, SUN, Oracle, Lucent, ProSoft, 3-Com, IBM, and many others.

DERAYAH ACADEMY

derayah.net

Derayah Academy is founded by a group of professional experts with over 20 years of experience in Training, Development and Consulting Services, relying on a network of certified professional trainers and consultants who have practical experience in their specialties. Derayah Academy has lately established The Engineering Section in order to offer training courses and workshops in different engineering specializations such as Mechanical, Electrical, Chemical, Health & Safety, General Engineering, etc, relying on the latest and updated technology.

- Content of training:
 - Human Resources Training Programs: Performance Management And Development, Effective Communication, Presentation & Interpersonal Skills, Career Path And Development, Leadership Communication & Teambuilding For The 21st. Century, Manpower Organization & Succession Planning, Project Management, Marketing Planning, Marketing Management & Marketing Research, etc.
 - Engineering Training Programs: Project Management (PM), Total Productive Maintenance (TPM), Supply Chain Management (SCM), Logistics Systems, Production Planning and Control (PPC), Advanced Planning And Scheduling (APS), The Enterprise Resource Planning Guide (ERP), Technical Report Writing Techniques For Engineers, Vibration Analysis And Prevention, Water Treatment And Purification Process, Electrical Protection Systems, etc.
- Modes of training:
 - Classroom training programs

EXCELLENCE, INC.
excellenceinc.org

Excellence, Inc. furthers private sector-driven economic growth in Jordan. Based on an initiative of USAID, it assists private firms, business associations, and other institutions to upgrade their operations so they can effectively compete in the global economy. It serves as a champion of institutional excellence, guides organizations through the design and implementation of change management programs, and helps firms to best utilize existing resources. It focuses on five key areas: leadership, people, processes, knowledge, and finances. Its primary service is consulting to individual organizations, although occasional conferences and workshops have taken place.

- Reason for Inclusion in Inventory- Jordanian NGO promoting excellence in business management and operations; included because AEBC expressed interest
- Home Country – Jordan
- Geographic Focus of Training – Jordan
- Content of training
 - Strategic and business planning
 - Financial management
 - Project management
 - Leadership development
 - Communications/public relations
 - Quality management
- Modes of training
 - Primarily consulting to individual organizations; interest groups of similar organizations are formed; group technical assistance
 - Occasional in-person seminars/conferences in Jordan but website does not show any current ones
 - Resources: a few reports
- Costs
 - Consulting fees are not specified
 - Per person/hour for in-person workshop – no current courses and no information about fees for past offerings
 - Resources are free of charge
- Special Certificate/Recognition – certification of excellence for organizations that achieve benchmarks

EXECUTRAIN
executrain.com

ExecuTrain is a worldwide corporate training provider and world leader in business education training. The privately held U.S. based company has 150 franchise locations in 25 countries. ExecuTrain provides assessment, design, development and implementation of professional development solutions for companies worldwide. ExecuTrain offers comprehensive, customer-focused solutions, including Business Skills Training, Desktop Applications Training, IT Professional Certification, Online Learning, Learning Management Systems, Custom Solutions, Management Training, Training Outsourcing, Room Rentals and Project Management Services. The priority of the company is to keep people, curriculum, and facilities current with the latest changes in technology, allowing clients to focus on their own businesses.

Content of training:

Business Skills:

- | | |
|----------------------------------|--|
| √ Leadership development program | √ Advanced interpersonal communication |
| √ Managerial leadership | √ Appraisal performance |
| √ Motivating at work | √ Business accounting |
| √ Negotiating | √ Business ethics |
| √ PM fundamentals | √ Business etiquette |
| √ PM essentials | √ Business finance |
| √ PMP certification preparation | √ Problem solving |
| √ Project teams | √ Customer relationship management |
| √ Retaining employees | √ Delegation skills for leaders |
| √ Team building workshop | √ Effective business writing |
| √ Time management | √ Effective presentations |

Computer Skills:

- Programming and design softwares

Modes of training:

- √ ExecuTrain Classroom Training
- √ e-Learning—ExecuTrain
- √ Virtual Campus
- √ Online resources, Prep-tests,

Certifications and other IT Pro staples

Special Certification:

Certification in different fields in Microsoft, Oracle, Cisco, Sun, Novell, SCO, Prosoft, Visio and Linux.

INSTITUTE OF MANAGEMENT CONSULTANTS - USA
imcusa.org

IMC USA is a professional association and certifying body dedicated to individuals consulting to management. The IMC USA mission is to promote excellence and ethics in management consulting through certification, education, and professional resources. IMC USA activities are aimed at helping members gain knowledge and skills and market their business. Benefits include professional development, a public presence in business and management issues, and skill development and business networking.

- Reason for Inclusion in Inventory- specialist in training and certification of management consultants; included because AEBC expressed interest. However, although the training topics do cover the issues of concern to AEBC members, the focus here is on the practice of management consulting which is not the business focus of AEBC firms.
- Home Country – United States of America
- Geographic Focus of Training – USA
- Content of training
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Human resource management
 - Leadership development
 - How to be a consultant
 - Communications/public relations
- Modes of training
 - In-person seminars/conferences in USA
 - Self-study courses & “web-in-ars”
 - Resources: books, self-study courses
- Costs - Per person/hour for in-person - \$57
- Special Certificate/Recognition – Certified Management Consultant (CMC) awarded after review of credentials + written exam

INTRINSIC MANAGEMENT

Intrinsic-management.com

Founded with the spirit of innovation and bringing customers the best value for their specific needs, Intrinsic Management provides its services to a number of leading and emerging organizations across sectors and industries. Intrinsic Management Services focuses on Management and Organizational Maturity related services, enhancing its customers' capabilities in managing projects, programs and portfolios to achieve their strategic results.

- Content of training:
 - Project Management Preparation Courses
 - Project Management Practitioner's Training
 - Special Topics in Project Management (Risks, Quality, HR and Change Management)
 - Organizational Maturity Topics
 - Program Management & Portfolio Management
 - Setting up and Managing PMO
 - Team Building, Leadership, and Interpersonal Skills for Project Managers
 - PM Technology
 - √ Enterprise Project Management Tools implementation
 - √ Customization of EPM – Microsoft Project Server
 - √ Requirements and specification setting of PMIS
 - √ Supervision of development, implementation and training of PMIS
- Modes of training:
 - Assessment of skills
 - Classroom training programs
 - Impact evaluation after training
- Special Certification:
 - Project Management Certification Preparation Courses (PMP, CAPM, PgMP)

JUMP (JORDAN UPGRADING AND MANAGEMENT PROGRAMME)
jump.jo

This Jordanian organization, sponsored by the H.E. Minister of Industry and Trade, seeks to improve the competitiveness of Jordanian enterprises. It enhances management and production capabilities through consultation and technical assistance. Priority is given to manufacturing and related businesses, and it is not clear that A/E/C firms are eligible for its services.

- Reason for Inclusion in Inventory- management capacity-building; included because AEBC expressed interest.
- Home Country – Jordan
- Geographic Focus of Training – Jordan
- Content of services
 - Strategic and business planning
 - Financial management
 - Project management
 - Development planning
 - Information systems
 - Quality control
 - Time analysis and productivity improvement
- Modes of assistance – the focus is on capacity-building of individual organizations – priority given to manufacturing and/or related services company
 - Need assessment studies
 - Diagnostic studies and upgrading plans
 - Development plans
 - Business plans
- Costs
 - Costs calculated according to size of company; subsidy is available
- Special Certificate/Recognition – none

KNOWLEDGE KINGDOM

knowledgekingdom.com.jo

Knowledge Kingdom is a pioneer business training center mainly in business consultation, business information, strategies and technology in both Private and National sectors. The mission of the organization is: training services, business consultations, business planning, establishing progressive business, conferences that meet strategies and aims of both individuals (staff) and companies for progressive staff training, skills, abilities, HR studies, and recruiting. The company policy stresses professionalism and leadership in managing the continuous progress of individual (staff) companies and companies' profitability thus creating credibility to enable the upgrading of the business training center to higher levels of regional performance.

- **Content of training:**
 - Secretarial and e-management
 - Finance and economics
 - Engineering programs and maintenance
 - Human resources programs and "train of trainers"
 - Managerial and leadership skills
 - Insurance
 - Sales and marketing
 - Legal programs and contracts and tenders
 - Education professional development
 - Computer software and IT
 - Public relations
 - Marine programs
 - Aviation programs
 - Engineering programs and landscape
 - Health programs and hospital management
- **Modes of training:**
 - In-person seminars/ conference/ training sessions
 - Registered trainers inside and outside Jordan
 - Resources – Guide for trainers, curricula for students

METHOD

methodcorp.com

Founded in the year 2000, Method is a Middle East leader and innovator in Project Management training, products and services. Method is the first Middle East firm to specialize completely in offering Project Management services and products as well as PMP®/ CAPM® certification preparation training based on PMI® Methodology. Over the past years, Method has trained thousands of individuals in Project Management and helped dozens get certified as PMP® candidates in many different Middle East countries. Method is a Registered Education Provider (REP) of the Project Management Institute (PMI).

- Content of training:
 - MPMP-Process® (Method Project Management Practical Process®)
 - Method's PMP® Exam Simulation
 - Methods PM Quick Assessments
 - PM KIT – Easy
 - Method's CAPM® Exam Simulation
- Modes of training:
 - On site (at your organization or at a location you choose)
 - Remotely live online (full interactivity, sharing knowledge, etc.)
 - At Method offices in Amman

OPTIMIZA ACADEMY

optimizasolutions.com

Optimiza, a publicly listed company with a paid up capital of US \$35 million (ASE:CEBC), is a regional technology solutions and business consulting services company that supports its clients' pursuit of operational excellence and profitability. The Optimiza signature – delivering reliable solutions – is based on a creative, intelligent approach to the integration of technologies and business processes that meet unique client requirements. The Optimiza network offers its diverse project skills and best practices expertise across the region, while ensuring required local support and services for sustaining successful implementations.

- Content of training:
 - Management and leadership
 - Human resources
 - Project management
 - Financial management
 - Customer care
 - Business soft skills
 - Selling skills
 - IT & DTA
 - E-learning solutions
 - Outsourcing: Optimiza offers its wide range of clients outsourcing support in four major fields:
 - √ Information Technology
 - √ Business Process
 - √ Program Management
 - √ Training Management
- Modes of training:
 - Total training solutions
 - Integration of strategic objectives into training processes
 - Assistance to organizations in developing and implementing their own continuous training
 - Training anywhere in the region

PROJECT MANAGEMENT INSTITUTE
pmi.org

PMI is a leading association for the project management profession. It is engaged in advocacy for the profession, setting professional standards, conducting research and providing access to relevant information and resources. PMI also provides professional development resources and offers certification, networking and community involvement opportunities. It offers the Project Management Professional (PMP®) credential that is a global certification in the profession.

- Reason for Inclusion in Inventory- international specialist in **project management** training
- Home Country – United States of America
- Geographic Focus of Training – Regions throughout the world
- Content of training
 - Project management
 - Risk management
 - Quality management
 - Value management
 - Leadership development
 - Management technology
 - Scheduling
 - Client relationship management
 - Portfolio management
- Modes of training
 - In-person seminars/conferences
 - Registered trainers are available throughout the world, including Jordan:
 - Method Corporation – offers preparation for PMP certification exam
 - AMIDEAST
 - Optimiza Academy
 - TenStep, Inc.
 - Resources: books, virtual library
- Costs
 - Per person/hour for in-person: \$110
 - Resources: \$20-\$50
- Special Certificates and Recognition
 - Annual Awards for Professional Excellence (e.g. individuals, projects, research)
 - 5 Certificates awarded according to education, experience and credentialing exams:
 - Project Management Professional (PMP)– recognized by International Organization of Standardization (ISO)
 - Program Management Professional (PgMP)
 - Certified Associate in Project Management (CAPM)
 - Risk Management Professional
 - Scheduling Professional

SOCIETY FOR HUMAN RESOURCE MANAGEMENT
shrm.org

This is the world's largest professional association devoted to human resource management. It provides comprehensive resources and professional development programs to its members and promotes the strategic role of human resources in the successful management of business enterprises.

- Reason for Inclusion in Inventory- specialist in human resource **management** training
- Home Country – United States of America
- Geographic Focus of Training – US, EU, multi-national
- Content of training
 - Human resource management
 - Strategic and business planning
 - Financial management
 - Project management
 - Marketing/business development
 - Leadership development
 - Technology
 - Cultural competence
- Modes of training
 - In-person seminars/conferences
 - On-line “web-in-ars”
 - Train-the-trainer courses
 - Resources: books, newsletters, self-study courses
- Costs
 - Per person/hour for in-person: \$75 - \$150
 - Per person/hour for on-line seminars: \$20
 - Resources: \$25 - \$465
- Special Certificate/Recognition – Certificate in Global Professional Human Resources after passing certification exam

TANWEER

etanweer.com

Tanweer is a Personnel Development Company that is mainly engaged to help companies in Jordan and the Middle East to improve, upgrade and develop the skills of its personnel in order to achieve higher productivity rates. The company conducts a number of training courses that varies from soft skills to technical courses with a business core. The company advertises that they have very high quality trainers from Jordan and the Arab countries.

- Content of training:
 - Time management
 - The art of leadership
 - Communication skills
 - Marketing
 - Team work
 - The skills salad program: Positive thinking, follow up skills, self confidence, overcoming objections skills, creative thinking, problem solving, successful meetings and customer service
 - E-marketing
 - Crisis management
 - Stress management, problem solving and decision making
 - Sales and closing techniques
 - Finance for non-financial managers
 - Management PLUS Program for Engineering Companies
- Modes of training:
 - Classroom training programs
 - Workshops and seminars

TRAINEDGE

train-edge.com

Established in 2005, TrainEdge managed to gain recognition as an astute training provider in Jordan in less than three years with its professional and inspiring approach to creatively develop people through indoor training sessions or outdoor activities. Today, TrainEdge is perceived as one of the top training solution providers in Jordan with a growing list of satisfied 'partners' from different walks of life.

- Content of training:
 - Management, Soft Skills, & Life Skills Courses: Change management, time management, business writing, strategic management, team building, total quality management, creative thinking, etc.
 - Marketing, Public Relations, and Sales Courses: Marketing planning in action, marketing strategies, negotiation skills, strategic marketing management, presentation skills, etc.
 - Financial & Accounting Courses: Budget preparation and control, credit analysis, accounting for non-accountants, etc.
- Modes of training:
 - Customized training programs based on pre-assessment for training needs
 - Class room training
 - Impact evaluation after training

WINDOWS FOR TECHNICAL & MANAGERIAL CONSULTATION

windowstmc.com

"Windows for Technical and Managerial Consultations", offers consultation services based on a scientific approach to help its customers in areas of management, economy, finance, accounting, technical, industrial etc. The company designs and conduct specialized training programs in the Jordanian and regional markets, oriented to the whole Arab nation. The company also designs and conducts other forms of training activities such as workshops, seminars, and symposiums.

- Content of training: Windows for Technical & Managerial Consultation offers several training courses in the following topics:

- Human Resources & Training
- Accounting, finance & economy
- Insurance
- Ports & transport and customs
- Office management & secretariat
- Public relations & behavioral
- Security, safety, health & environment
- Law
- Purchase, sales & marketing
- Production & maintenance
- Electronic engineering
- Mechanical engineering
- Civil and project engineering
- Gas, oil & energy
- Management

- Modes of training:
 - Specialized training programs
 - Workshops, seminars and symposiums

APPENDIX 2: COMPARATIVE ATTRIBUTES OF TRAINING RESOURCE PROVIDER ORGANIZATIONS

AEBC INVENTORY OF CERTIFIED TRAINING RESOURCES

TYPE I. ORGANIZATIONS THAT PROVIDE TRAINING TO ARCHITECTS, ENGINEERS & PROFESSIONALS IN RELATED FIELDS

AM. INST. OF ARCHITECTS (aia.org)	CENTER FOR THE STUDY OF THE BUILT ENVIRONMENT (csbe.org)	ENGINEERING MANAGEMENT CERTIFICATION INTERNATIONAL (engineeringcertification.org)	EPICConnection (epiconnection.org)	FEDN. OF ARAB ENGINEERS (uaesocietyofengineers.com)	FIDIC -Internat'l. Federation of Consulting Engineers (fidic.org)	INSTITUTION OF CIVIL ENGINEERS (ice.org.uk)	KAPLAN AEC EDUCATION (kaplanaecarchitecture.com; kaplanaecengineering.com)	NATL. CENTER FOR CONSTRUCTION EDUC. & RESEARCH (nccer.org)	PSMJ RESOURCES (psmj.com)	RED VECTOR (RedVector.com)	ROYAL INSTITUTE OF BRITISH ARCHITECTS (architecture.com)	SOCIETY FOR MARKETING PROFESSIONAL SERVICES (smpls.org)	ZWEIG-WHITE (zweig-white.com)
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HOME COUNTRY

1=Jordan													
2=US													
3=EU/Britain													
4=MENA (other than Jordan)													
5=Other (United Arab Emirates)													

GEOGRAPHIC FOCUS OF TRAINING

Multi-National													
MENA													
Jordan													
US													
UK													
EU													
Other (Australia, Canada)													

TARGET AUDIENCE (all that apply)

1= Engineers + staff													
2= Architects + staff													
3= Planners													
4= All managers regardless of industry													
5=construction													
6=other													

TOPICS COVERED IN TRAINING

(List all that apply)

1=technical information													
2=environmental management													
3=financial management													
4=project management													
5=HR management													
6=business planning and strategy													
7= technology													
8=marketing/proposal writing													
9= leadership development/transition													
10=communication/PR													
11=inter-cultural understanding													
12=risk management													
13=other *													

* (buy/sell firms, safety, time management, public sector issues)

MODES OF TRAINING

1=IN-person internatl training													
2 = In-person training in Jordan													
3=in-person at individual offices													
4=on-line courses/self-study/web-in-ar													
5=blended training (in-pers.+ on-line)													
6=resources(pubs., DVDs, courses)													
7=consulting													
8=knowledge community													
9=In-person in home country													
10=referrals to courses													
11=other (training of trainers)													

AEBC INVENTORY OF CERTIFIED TRAINING RESOURCES

AM. INST. OF ARCHITECTS (aia.org)
CENTER FOR THE STUDY OF THE BUILT ENVIRONMENT (csbe.org)
ENGINEERING MANAGEMENT CERTIFICATION INTERNATIONAL (engineeringcertification.org)
EPICConnection (epicconnection.org)
FEDN. OF ARAB ENGINEERS (uaesocietyofengineers.com)
IDIC - Internati. Federation of Consulting Engineers (fidic.org)
INSTITUTION OF CIVIL ENGINEERS (ice.org.uk)
KAPLAN AEC EDUCATION (kaplaanaecarchitecture.com; kaplaanaecengineering.com)
NATL. CENTER FOR CONSTRUCTION EDUC. & RESEARCH (nccer.org)
PSMJ RESOURCES (psmj.com)
RED VECTOR (RedVector.com)
ROYAL INSTITUTE OF BRITISH ARCHITECTS (architecture.com)
SOCIETY FOR MARKETING PROFESSIONAL SERVICES (smfs.org)
ZWEIG-WHITE (zweig-white.com)

Non-Member Rates:

[illegible]

\$400

No charge

[illegible]

SPECIAL CERTIFICATION / RECOGNITION													
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- 1** Levels of membership based on educ., licensing & experience
Special awards for excellence
- 2** Levels of certification:
1. Eng. mgmt. certification fundamentals
2. Eng. Mgmt. certification professional
- 3** 5 levels of membership based on education and experience AND construction skills certificate
- 4** Natl. Craft Assessment Certificates and Masters Degree
- 5** Special certificate programs in construction supervision and construction project management
- 6** Many fellowships and awards
- 7** Certificate in Professional Services Marketing

AEBC INVENTORY OF CERTIFIED TRAINING RESOURCES
TYPE II. ORGANIZATIONS THAT PROVIDE GENERALIZED TRAINING ON MANAGEMENT AND HUMAN RESOURCES

AMERICAN MANAGEMENT ASSOCIATION (amanet.org)	COMPUBASE INTERNATIONAL compulbase.com.jo	DERAYAH ACADEMY derayah.net	EXCELLENCE, INC. (excellenceinc.org)	EXECUTRAIN executrain.com	INST. OF MANAGEMENT CONSULTANTS USA (incusa.org)	INTRINSIC MANAGEMENT Intrinsic-management.com	KNOWLEDGE KINGDOM knowledgekingdom.com.jo	METHOD methodcorp.com	OPTIMIZA ACADEMY optimizasolutions.com	PROJECT MANAGEMENT INSTITUTE (pmi.org)	SOCIETY FOR HR MANAGEMENT (shrm.org)	TANWEER etanweer.com	WINDOWS FOR TECHNICAL & MANAGERIAL CONSULTATION, windowstmc.com	TRAINEDGE train-edge.com
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HOME COUNTRY

1=Jordan														
2=US														
3=EU/Britain														
4=MENA (other than Jordan)														
5=Other														

GEOG. FOCUS OF TRAINING

Multi-National														
MENA														
Jordan														
US														
UK														
EU														
Other (China, India)														

TOPICS COVERED IN TRAINING

1=technical A/E & environmental management														
2=financial management														
3=project management														
4=HR management														
5=business planning and strategy														
6= technology														
7=marketing/proposal writing														
8=leadership development/transition														
9=communication/PR														
10=cultural competence														
11=risk management														
12=other *														

* (quality management, organizational development, innovation, time management)

MODES OF TRAINING

1=In-person outside of Jordan only														
2=IN-person outside of Jordan & someintl. sites														
3 = In-person training in Jordan														
4=in-person at individual offices														
5=on-line self-study/web-in-ar														
6=blended training (in-pers.+ on-line)														
7=resources(pubs., DVDs, courses)														
8=consulting														
9=knowledge community														
10=referrals (courses/resources/consultants)														
11=other (training of trainers)														

Continued from previous page

AEBC INVENTORY OF CERTIFIED TRAINING RESOURCES

TYPE II. ORGANIZATIONS THAT PROVIDE GENERALIZED TRAINING ON MANAGEMENT AND HUMAN RESOURCES

AMERICAN MANAGEMENT ASSOCIATION (amanet.org)	COMPUBASE INTERNATIONAL compubase.com.jo	DERAYAH ACADEMY derayah.net	EXCELLENCE, INC. (excellenceinc.org)	EXECUTRAIN executrain.com	INST. OF MANAGEMENT CONSULTANTS USA (imcusa.org)	INTRINSIC MANAGEMENT Intrinsic-management.com	KNOWLEDGE KINGDOM knowledgekingdom.com.jo	METHOD methodcorp.com	OPTIMIZA ACADEMY optimizasolutions.com	PROJECT MANAGEMENT INSTITUTE (pmi.org)	SOCIETY FOR HR MANAGEMENT (shrm.org)	TANWEER etanweer.com	WINDOWS FOR TECHNICAL & MANAGERIAL CONSULTATION, windowstmc.com	TRAINEDGE train-edge.com
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AEBC INVENTORY OF CERTIFIED TRAINING RESOURCES

COSTS

**PER TRAINING HOUR/PERSON
(non-member rate)**

1=<\$50														
2=\$50-74														
3=\$75-99														
\$100 - \$149														
> \$150														
No information														

PER SESSION

PER TRAINING RESOURCE

No charge														
<\$100														
\$101-\$200														
\$201 - \$300														
\$301 - \$400														
\$401-500														
>\$500														
NO information														

SPECIAL CERTIFICATE/RECOGNITION

Note
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Notes

- 1 AMA Corporate Certificate
- 2 Organizational Certificate of Excellence
- 3 Certified Management Consultant
- 4 Awards for professional excellence
5 certificates
 - 1: Project Management Professional (ISO recognized)
 - 2: Risk Management Professional
 - 3: Program Mgmt. Professional
 - 4: Certified Associate in Project Management
 - 5: Scheduling Professional
- 5 Professional in Human Resources Certificate
- 6 Microsoft, Oracle, Cisco, Sun, Novell, SCO, Prosoft, Visio and Linux
- 7 Project Management Certification Preparation Courses (PMP, CAPM, PgMP)

APPENDIX 3: INTERNET SURVEY RESULTS

The pages that follow are a direct summary of the responses to the Internet survey.

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