

MgtEngSM

Symbol of Management Excellence in Engineering

**APPLICATION FOR THE DESIGNATION OF
MgtEngSM (MANAGEMENT ENGINEER)**



AMERICAN COUNCIL OF ENGINEERING COMPANIES

1015 15TH STREET NW, 8TH FLOOR

WASHINGTON, DC 20005-2605

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WWW.ACEC.ORG

Special Note: State law and regulation differ by jurisdiction. Although attainment of MgtEngSM or ExecEngSM designations requires a professional engineer license, use of the designation suffix on letterhead, business cards, etc., may only be appropriate for states where the professional engineer holds current registration. If you have any questions, please check with the state licensing board for further clarification.

PROGRAM

ACEC has established the designation of MgtEngSM (for Management Engineer) to recognize the singular attainment of experience and education by worthy individuals in the engineering industry. To earn the designation, individuals must meet the high standards and specific requirements listed herein, submit a completed application and be duly recognized by the Designation Review Board.

ACEC also administers two other management-oriented designations - ExecEngSM (Executive Engineer) and MgtProSM (Management Professional), which have requirements that are distinct from the MgtEngSM designation.

ELIGIBILITY

To earn the designation of MgtEngSM (Management Engineer), you must have:

1. A valid Professional Engineer (PE) license.
2. Completed a minimum of 150 Professional Development Hours (PDHs) of continuing education in four (4) of the twelve (12) Knowledge Domains or a Masters degree in a related field plus 50 PDHs. (Refer to appendix for Knowledge Domains and examples.) To have PDHs counted for a single Knowledge Domain, applicant must have at least 7.5 hours of continuing education in that Domain.

The PDHs must be recognized by an accredited education provider such as the National Council of Examiners for Engineering and Surveying (NCEES), International Association for Continuing Education and Training (IACET), or Accreditation Board for Engineering and Technology (ABET).

3. Seven (7) to ten (10) years of engineering experience, including management experience in at least one of the three key areas - people management, project management and business management.

RENEWALS

In order to stay up-to-date with the latest trends and developments in the industry, it is important for professionals to continue their education.

Designations are valid for a period of three years. To maintain your designation, you must obtain at least 15 PDHs per year - or 45 PDHs every three years - in accordance with Model Law, published by the National Council of Examiners for Engineering and Surveying (NCEES).

Designees are responsible for maintaining supporting documents and records to verify attendance. Records should reflect the type of activity, sponsoring organization, location, date of completion, instructor information, as well as PDH credits earned. PDH records should be recorded and stored at www.rc.ep.net; simply log in as a Basic (free) subscriber. Transcripts may be produced at www.rcep.net for easy designation

renewal; simply upgrade to a Power subscription to take advantage of this feature.

At the end of the three-year period, designees should renew by completing the form available for download at www.acec.org and submitting the \$100 renewal fee along with proof of PDH history. PDH history may be submitted via an RCEP.net issued transcript or by presenting copies of certificates of completion.

Designations that are not renewed at the end of the three-year period will lapse. Professionals whose designations have lapsed must re-apply in order to obtain the designation.

INSTRUCTIONS

1. Read the entire application kit before you begin completing the application.
2. Pay the non-refundable application fee
 - \$225 ACEC Member
 - \$325 Non-ACEC Member
3. Submit your completed and signed application with payment to:
The American Council of Engineering Companies
Attn: Manager, Continuing Education System
1015 15th Street NW, 8th Floor
Washington, DC 20005-2605
4. Attach copies of your resume, Professional Engineering (PE) license, Professional Development Hours (PDHs) transcripts/certificates, college or university transcripts of advanced degree(s), and three recommendation letters.

FREQUENTLY ASKED QUESTIONS ABOUT THE **MgtEngSM** (MANAGEMENT ENGINEER) DESIGNATION

1. **What is the purpose of MgtEngSM (Management Engineer) designation?**
The American Council of Engineering Companies (ACEC), a premier national association with a 100-year history of advocacy for the engineering industry, offers the designation of MgtEngSM to recognize the accomplishments of business managers in the engineering industry. Achievement of the MgtEngSM designation recognizes that the individual has attained the required experience, education and leadership as required under the program and as defined under the 12 ACEC Knowledge Domains (see Appendix of the application kit for a complete listing).
2. **What are the benefits of earning the MgtEngSM (Management Engineer) designation?**
Following are some of the benefits of earning the designation of MgtEngSM:
 - MgtEngSM designation is the symbol of management excellence in the engineering industry. As the premier industry designation, MgtEngSM distinguishes holders as successful managers who have demonstrated a high level of management experience, skills and knowledge in the fields of engineering and business management.

- The MgtEngSM designation shows your commitment to the practice of engineering and business management, including the management of projects, people and business components.
- A designation holder receives permission from the American Council of Engineering Companies (ACEC) for using the MgtEngSM designation suffix on letterhead, business cards and all forms of address.
- The MgtEngSM designation holder is issued a certificate attesting to his/her management excellence in the field of engineering, which may be framed and displayed as evidence of the attainment.

3. Am I eligible to earn the designation of MgtEngSM (Management Engineer)?

To qualify for the MgtEngSM designation, you must meet the following requirements:

- a. A valid Professional Engineer (PE) license.
- b. Completion of at least 150 Professional Development Hours (PDHs) of continuing education in four (4) of the twelve 12 Knowledge Domains or a Masters degree in a related field plus 50 PDHs.
- c. Seven (7) to ten (10) years of related experience, including management experience in at least one of the two key areas - people management and project management.

4. What type of continuing education activities are acceptable to fulfill the requirement of Professional Development Hours (PDHs)?

The following types of continuing education activities relevant to the ACEC's 12 Knowledge Domains are acceptable:

Acceptable Continuing Education Activities	Maximum Allowed PDHs
1. College and University-level on-site and online courses	
a. Semester-based course	45 PDHs/Course
b. Quarter-based course	30 PDHs/Course
2. Short courses/tutorials/distance-education courses offered through correspondence, television, videotape and the Internet	1 PDH/Hour of Activity
3. Attending relevant seminars, conventions, conferences, workshops and in-house courses	1 PDH/Hour of Attendance
4. Teaching or Presenting*	
a. College and university-level on-site and online courses	90 PDHs/Course
b. Continuing education on-site and online courses	60 PDHs/Course
c. Short courses/tutorials/distance-education courses offered through correspondence, television, videotape and the Internet	2 PDHs/Hour of Teaching
d. Seminars, conventions, conferences, workshops and in-house courses	2 PDHs/Hour of Presenting
5. Authoring	
a. Published paper or article	5 PDHs/Paper or Article
b. Published book	10 PDHs/Book
6. Active participation in a professional or technical society/association	2 PDHs/Year
7. Patent	10 PDHs/Patent

* Teaching credit is valid for the first offering or presentation.

NOTE:

- If you attend courses that use Continuing Education Units (CEUs), please note that for conversion purposes, 1 CEU = 10 PDHs.
- If you attend courses that use Professional Development Units (PDUs), please note that for conversion purposes, 1 PDU = 1 PDH.

5. What are the 12 Knowledge Domains?

The 12 Knowledge Domains are as follows:

1. Business Management & Quality
2. Technical (STEM), Health & Safety
3. Public Policy & Industry Issues
4. Finance & Economics
5. Human Resources
6. Leadership & Ethics
7. Contracts & Risk Management
8. Communications & Information Technology
9. Marketing & Business Development
10. Project Management & Project Delivery
11. Engineering Futures/Forecasting & Engineering Heritage
12. Cross Domain Topics & Multi-Disciplinary Issues

6. Where I can find more details on the 12 Knowledge Domains?

The details on all 12 Knowledge Domains are provided in the attached Appendix.

7. How can I organize my continuing education credits?

ACEC and NCEES have created an online educational management system called the Registered Continuing Education Program (www.rcep.net). The system allows the individual applicant to organize continuing education credits and past experience in a format that is held electronically over time. Those applicants not enrolled in a system such as RCEP will need to submit paper-based attestations or certificates showing successful accomplishment of required continuing education courses.

8. How long is my MgtEngSM (Management Engineer) designation valid?

The Designation is valid for three years, and renewable for another three, etc. with subsequent renewals upon payment of the renewal fee, as long as continuing education PDH requirements are met. Check the renewals section for details.

If you have additional questions, please email us at MgtEng@acec.org.

APPLICATION CHECKLIST & PAYMENT FORM

Applicant must submit the following checklist and fee payment form with the completed application.

APPLICATION CHECKLIST

Check if you have:

- Read the entire application kit
- Completed the application in its entirety
- Signed your application
- Enclosed the application fee
- Enclosed your resume
- Enclosed a copy of your Primary Professional Engineer (PE) license
- Enclosed a copy of your advanced degree transcripts
- Enclosed copies of Professional Development Hours (PDHs) transcripts/certificates
- Enclosed three recommendation letters
- Addressed your application package to:
The American Council of Engineering Companies
Attn: Manager, Continuing Education System
1015 15th Street NW, 8th Floor
Washington, DC 20005-2605

PAYMENT FORM

Please select one:

- I am affiliated with a member organization of the American Council of Engineering Companies (ACEC) and my \$225 application fee is enclosed.
ACEC-Member Organization Name: _____

- I am not affiliated with a member organization of the American Council of Engineering (ACEC) Companies and my \$325 application fee is enclosed.

Please select one:

- Check made payable to the American Council of Engineering Companies
- Visa Card MasterCard American Express

Credit Card Number

Expiration Date

Name as it appears on the card (please print)

Signature

PRINT: _____
Last Name _____
First Name _____
Primary PE License # _____
Date _____

APPLICATION FORM for MgtEngSM DESIGNATION

ACADEMIC QUALIFICATIONS ---

Please list your academic qualifications beginning with your most advanced degree. Submit copies of your advanced degree(s) transcripts.

<u>College or University</u> Name/Location	Degree Designation	<u>Degree</u> Major/Minor	<u>Date of Degree Awarded</u> Month/Year

CONTINUING EDUCATION ---

Please list your continuing education activities which pertain to the 12 Knowledge Domains provided in Appendix. Attach additional sheet(s), if more space is needed. Submit copies of continuing education transcripts/certificates for each listed activity.

Start Date (Month/Day/Year)	End Date (Month/Day/Year)	Title/Topic of Continuing Education Activity	Number of Professional Development Hours (PDHs)	Knowledge Domains (Select from the list provided in Appendix)	Provider/Sponsor of Continuing Education Activity

APPLICATION FORM for MgtEngSM DESIGNATION

C. Previous Position _____

Start date: _____ / _____
(Month) (Year)

End Date: _____ / _____
(Month) (Year)

Brief Description of Responsibilities _____

Company/Organization Name _____

Company/Organization Address _____
Street

City State Zip Code

D. Previous Position _____

Start date: _____ / _____
(Month) (Year)

End Date: _____ / _____
(Month) (Year)

Brief Description of Responsibilities _____

Company/Organization Name _____

Company/Organization Address _____
Street

City State Zip Code

APPLICATION FORM for MgtEngSM DESIGNATION

REFERENCES

Please provide recommendation letters from three references within the engineering industry who can attest to your management experience and qualifications as set forth in this application. List the contact information of your references below:

A. Name _____ Title _____
Company/Organization Name _____
Address _____
Phone _____ Email _____

B. Name _____ Title _____
Company/Organization Name _____
Address _____
Phone _____ Email _____

C. Name _____ Title _____
Company/Organization Name _____
Address _____
Phone _____ Email _____

AFFIDAVIT

Application must be signed in order to be processed.
I hereby certify that all the information provided in this application, and all documents enclosed herewith, are true and accurate to the best of my knowledge. I understand that any misrepresentation on this application may preclude acceptance into the MgtEngSM (Management Engineer) designation program, or may result in discharge from the program at any point.

Print Name _____
Signature _____ Date _____

APPENDIX

12 Knowledge Domains

THE KNOWLEDGE DOMAINS

The American Council of Engineering Companies (ACEC) has established the following 12 Knowledge Domains that organize knowledge disciplines into areas of interest for engineers engaged in management and leadership:

1. Business Management & Quality
2. Technical (STEM), Health & Safety
3. Public Policy & Industry Issues
4. Finance & Economics
5. Human Resources
6. Leadership & Ethics
7. Contracts & Risk Management
8. Communications & Information Technology
9. Marketing & Business Development
10. Project Management & Project Delivery
11. Engineering Futures/Forecasting & Engineering Heritage
12. Cross Domain Topics & Multi-Disciplinary Issues

BRIEF DESCRIPTION OF EACH KNOWLEDGE DOMAIN

- 1) Business Management and Quality: Business and quality management knowledge to effectively organize, develop, and administer an organization, project or prog
- 2) Technical (STEM), Health & Safety: Technical science and engineering knowledge to ensure a technically sound project and safe work environment.
- 3) Public Policy and Industry Issues: Knowledge of the political and regulatory processes to facilitate the permitting, funding, delivery and operations of building, infrastructure and industrial projects and programs.
- 4) Finance and Economics: Effective knowledge for developing and administering organizational and project accounting, finance, and tax programs, and influencing engines of economic growth.
- 5) Human Resources: Knowledge for effectively leading, developing and administering personnel management, compensation, benefits, and other HR programs, including mentoring and motivating teams and individuals.
- 6) Leadership and Ethics: Knowledge, skills and attributes to improve individual leadership and organizational performance, while grounded in ethical principles and good business practices.
- 7) Contracts and Risk Management: Knowledge of legal and risk management issues, including contract law, legal institutions and risk assessment and mitigation.
- 8) Communications and Information Technology: Knowledge to effectively acquire, manage and deploy technology systems for information storage, data manipulation, CAD/ BIM, communications, and firm operations, plus classical communications theory and knowledge.
- 9) Marketing and Business Development: Knowledge for conceiving, implementing and managing strategic and effective marketing, outreach and sales programs for organizations.
- 10) Project Management & Project Delivery: Theory and existing knowledge of project and program management for the built environment, plus sequential and integrated project delivery methodologies.
- 11) Engineering Futures/Forecasting & Engineering Heritage: History of engineering and science, as well as recognition of the heritage of knowledge and artifacts. Awareness of methods for devising future scenarios and trends forecasting
- 12) Cross-Domain Topics and Multi-Disciplinary Issues (such as sustainability): Topics and meta-disciplines that extend over multiple domains. An example would include the social, economic and technical challenges of a series of new fission plants located in Southern California.

EXAMPLES OF EACH KNOWLEDGE DOMAIN ---

1. BUSINESS MANAGEMENT AND QUALITY

- Organizational structure I: legal forms of business, including corporation, partnerships, sole proprietorship, S-Corporation, LLC
- Organizational structure II: functional, geographic, client-based
- Fundamental business systems and procedures
- Successful recognition and monitoring of business “Vital Signs”
- Development of and adherence to quality standards
- Basic knowledge management
- Business succession and methods of owner transition
- Creating branch offices
- Advanced quality standards (Peer Review, ISO 9001, etc.)
- Interdisciplinary reviews of business performance
- Business Partnering and Joint Ventures
- Managing a multi-office operation
- Multi-profit centers vs. single profit center
- Increasing productivity and profits
- Ownership transition, business valuation, and mergers & acquisitions
- Managing international operations/global practice

2. TECHNICAL (STEM), HEALTH & SAFETY

- Principles of design (for specific engineering sub-discipline or type of project)
- Structural condition assessment
- Technical peer review
- OSHA construction standards competency training
- Wetlands and 404 permitting
- Soil & rock stability - angles of repose and shoring principles
- Stream investigation and analysis
- Water quality assessment
- Structural renovation of historic structures
- Fundamentals of earthquake engineering
- Hurricane, wind, and flood structures
- Security risk assessment for facilities
- Storm water requirements and compliance
- Principles of sustainable design
- Electrical systems - reliability and safety
- Mechanical systems - reliability and safety

3. PUBLIC POLICY & INDUSTRY ISSUES

- Political systems and public policy
- The legislative process
- Regulations and the built environment
- Public health and safety - legal precedents
- Budgeting in the public sector for capital projects
- Community involvement
- Civic activism and the engineering profession
- Topical industry issues

4. FINANCE AND ECONOMICS

- Introduction to generally accepted accounting principles
- Accounting for management
- An accountant's guide to information technology
- Balance sheet and income statement prep
- Project compensation terms and invoicing (Fixed-price, cost plus fee, etc.)
- How to evaluate, select and implement a new financial and accounting system
- Accounting for project profitability
- Financial analysis for engineering firms
- Budgeting
- Overhead accounting
- Federal cost accounting standards
- Financial reporting: income statement, balance sheet, cash flows
- Cash management
- Internal financial controls
- Value pricing
- Corporate taxation
- Corporate governance
- Accounting for stock options
- Financial aspects of ownership transition
- Allowable and unallowable costs
- Risk management
- Deferred taxes
- Project financial controls
- Economic feasibility of projects

5. HUMAN RESOURCES

- Introduction to interviewing skills
- Employment law and diversity issues
- New employee orientation
- Employee aptitude testing and personality testing
- Workplace communication skills
- Fundamentals of performance management
- Employee handbooks

- Performance Management II (giving feedback, risk management)
- Conflict resolution
- Introduction to coaching & mentoring
- Recruiting stars
- Software for HR professionals
- Benefit programs: how to manage health care costs, outsourcing
- Develop and evaluate performance/personnel surveys
- Successful use of outside training for staff development
- Compensation programs (bonus, etc., best practices)
- Creating career development programs
- Managing retention
- Performance Management III: progressive discipline
- Advanced labor relations
- Developing and implementing an improved work place environment (“Just Break all the Rules”)
- Capitalizing on staff strengths and seniority
- Matrix vs. traditional organizational design and reporting

6. LEADERSHIP AND ETHICS

- Leadership fundamentals
- Managing staff and other departments
- Facilitation and negotiation
- Interpersonal communications
- Ethics & decision making
- Leadership styles and accountability
- Basic teamwork, team learning, and dialogue
- Cross-cultural business and human resources issues
- Mentoring and coaching
- Conflict resolution
- Teambuilding, collaboration and intense teamwork
- Problem solving and decision making
- Managing up, relationship dynamics, and political dynamics in firms
- Integration of self, career and firm
- Emotional intelligence
- Strategic thinking: visioning, mission development, and scenario planning
- Developing leaders: energizing inspiring and empowering others
- Personal mastery
- Leading for creativity and innovation
- Systems thinking
- Entrepreneurial thinking
- Building strategic partnerships and alliances
- Global practice
- Ownership transition and stakeholder issues

7. CONTRACTS AND RISK MANAGEMENT

- Basics of contract documents
- Organizational structures (forms of doing business: corporation, partnership, sole proprietorship, S-Corporation, LLC, etc.)
- Joint ventures and teaming
- Using Engineers Joint Contract Documents Committee (EJCDC) and other contract documents
- Types of business insurance
- Risk management (Indemnity, Limitation of Liability, Waiver of Consequential Damages, Pay When Paid, Liquidated Damages)
- Professional liability insurance
- Electronic signatures, website security, and E-Delivery
- Construction site safety
- Tort law for design firms
- Case studies in legal issues
- Advanced contract issues
- Project failure: the many faces of risk
- Construction administration for engineers
- Identifying, assessing, and allocating risk
- Hot topics: Fair Labor Standards Act (FLSA), Financial Accounting Standards Board (FASB), tort reform, etc.
- Negotiating skills

8. COMMUNICATIONS AND INFORMATION TECHNOLOGY

- How to manage email on design projects
- Fundamentals of IT systems
- Project management software
- IT management for a small firm or office
- Using email: Controlling spam and viruses: Protocols for productivity
- How technology can improve project management
- State-of-the-art management of design data
- Budgeting for IT
- IT operational issues
- Liability reduction/risk management: What role can IT play?
- Email policies: risk and security
- Design and delivery in an electronic world
- Leveraging technology for better marketing/business development
- Archiving considerations, document management and retention
- Advanced Internet and Intranet skills for A-E professionals
- Building Information Modeling (BIM)

9. MARKETING AND BUSINESS DEVELOPMENT

- Selling to specific markets
- Bus Dev I: Fundamentals of Sales
- Bus Dev II: Fundamentals of Marketing
- Developing winning proposals
- Market research, tracking demographics, customer surveys
- Client relationship management (CRM)
- Developing a strategic marketing plan
- Developing a public relations program
- Communicating with clients
- Teaching staff to sell and managing sales performance
- Branding
- Negotiating contracts
- Cross-selling
- How to differentiate your firm
- Measuring the return on your marketing/sales investment
- Planning for recessions
- Advanced sales techniques
- Building strong teaming relationships
- Competitive market analysis
- Advanced CRM
- Methods for conducting client surveys
- Developing marketing leadership
- Value pricing
- Finding and winning foreign work

10. PROJECT MANAGEMENT & PROJECT DELIVERY

- Fundamentals of project management
- Introduction to Qualifications-Based Selection (QBS)
- Integrated delivery systems
- Essentials of design/bid/build
- How to be a successful project manager
- Project management communication skills
- Introduction to partnering & teaming
- Using project management software
- Multi-disciplinary project management
- Developing project scope/schedule/budget
- Subcontractor management
- How to effectively serve client needs
- Electronic signatures, website security, and E-Delivery
- Project contracting (commercial terms: lump sum, fixed price, etc.)
- Client Relationship Management (CRM)
- Building high value relationships
- Successful design/build and integrated project delivery
- Advanced concepts in alternative project delivery
- Coaching/mentoring project staff
- Project manager's role in business development
- Program management

11. ENGINEERING FUTURES/FORECASTING & ENGINEERING HERITAGE

- History of engineering
- Structural engineering history
- Public works history
- Great American Engineers
- Learning from past successes and failures
- Predicting performance
- Future demands - population growth and engineering
- Forecasting - trends in infrastructure use and demand

12. CROSS DOMAIN TOPICS & MULTI-DISCIPLINARY ISSUES (i.e. SUSTAINABILITY)

- Green Building and Leadership in Energy and Environmental Design (LEED)
- Green infrastructure and sustainable communities
- Multi-disciplinary approaches to problem solving
- Triple bottom line applied to building and infrastructure projects



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