



# Facility Management: Career Training and Resources

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# Overview/Agenda

- Careers in FM are: well paid, flexible, reliable, focused on sustainability/operations, etc.
- Great opportunity for young talent to pursue
- Seasoned professionals should get involved to spur opportunities, maintain growth
- Multiple ways to prepare yourself for a career in FM (formal degrees, certificates)

# About Simplar

- Group of **researchers** and **educators**
- Integrated within the **parties** (clients/buyers and vendors)
- Developed **tools, methods, & training** to enhance:
  - **Organizational Transformation**
  - **Procurement & Sourcing**
  - **Project & Risk Management**
  - **Operational Efficiency**
  - **Human Dimensions**
  - **Performance Measurements**
  - **Benchmarking & Workforce**
  - **Facility Management Professional Training**



Google



TREMCO



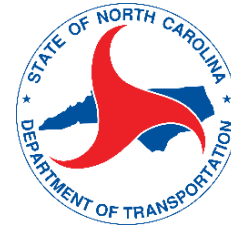
Georgia-Pacific



IFMA International Facility Management Association  
Empowering Facility Professionals Worldwide



BRITISH COLUMBIA



UNIVERSITY OF CALIFORNIA  
UC RIVERSIDE



# What is Facility Management?

**Building Operations** - Keeping buildings maintained and the mechanical systems running so that occupants are comfortable and safe.

**Security** - Oversee access and security

**Sustainability** - Managing smart use of energy and natural resources for the good of the environment.

**Planning** - Creating strategic plans for future

**Space Planning** - Designing furniture layouts and managing office space.

**Workplace Strategy** - Leading the use of workspace and technology so that employees can work effectively both as individuals and in groups.

**Real Estate Management** - Negotiating purchase and leasing of land and buildings.

### IS FM A CAREER FOR ME?

Consider facility management if you are interested in the following:

- Great compensation
- Job security
- Problem solving
- Travel opportunities
- Leadership opportunities
- Working closely with others
- Providing a safe and desirable workplace for everyone
- Striving to make working environments more efficient and sustainable

[Learn More](#)

**\$** The median annual salary for facility managers is \$92,087, reported by [Salary.com](#) in

**100% JOB PLACEMENT**  
There is a 100% job placement for FM graduates. Now that's impressive.

**GLOBAL OPPORTUNITIES**  
Over 100 countries offer FM opportunities. The world isn't going to manage itself.

<https://www.whatisfm.com/>



# Major FM & Staffing Studies

- O&M Benchmarking (Global)
  - O&M Qualitative Analysis of Facility Practices
- Healthcare FM Benchmarking
- New Global FM Benchmarking Information System
- Return on Investment for Training (Credentials)
- Synthesis of FM Industry Best Practices
- US Roofing Industry & Workforce Demographics
- Workforce & Succession Planning in Construction



# FM Benchmarking Results

- National study of FM organizations
- Developed extensive database (resulted in 6.6 billion datapoints)
- Goal: capture **costs & staffing** for:
  - janitorial
  - maintenance
  - utilities
  - green / sustainable
  - cost information
  - practices
  - technology & software
  - full demographics

**55,969 buildings across 15,784 locations**

- Total Gross Area of Buildings Surveyed = 1.8B SF
- Sitting on 1M+ acres of Property (avg: 50 acres)
- Average age = **45 years**

# Maintenance Staff Size

TOTAL MAINTENANCE STAFF		
FACILITY SIZE (RSF)	N	NUMBER OF FTEs
Less than 50,000	93	18
50,000-100,000	83	11
100,001-250,000	120	14
250,001-500,000	96	16
500,001-750,000	41	27
750,001-1,000,000	35	37
1,000,001-1,500,000	30	47
1,500,001-2,000,000	9	74
2,000,001-3,000,000	13	110
More than 3,000,000	15	212

Detailed positions include...

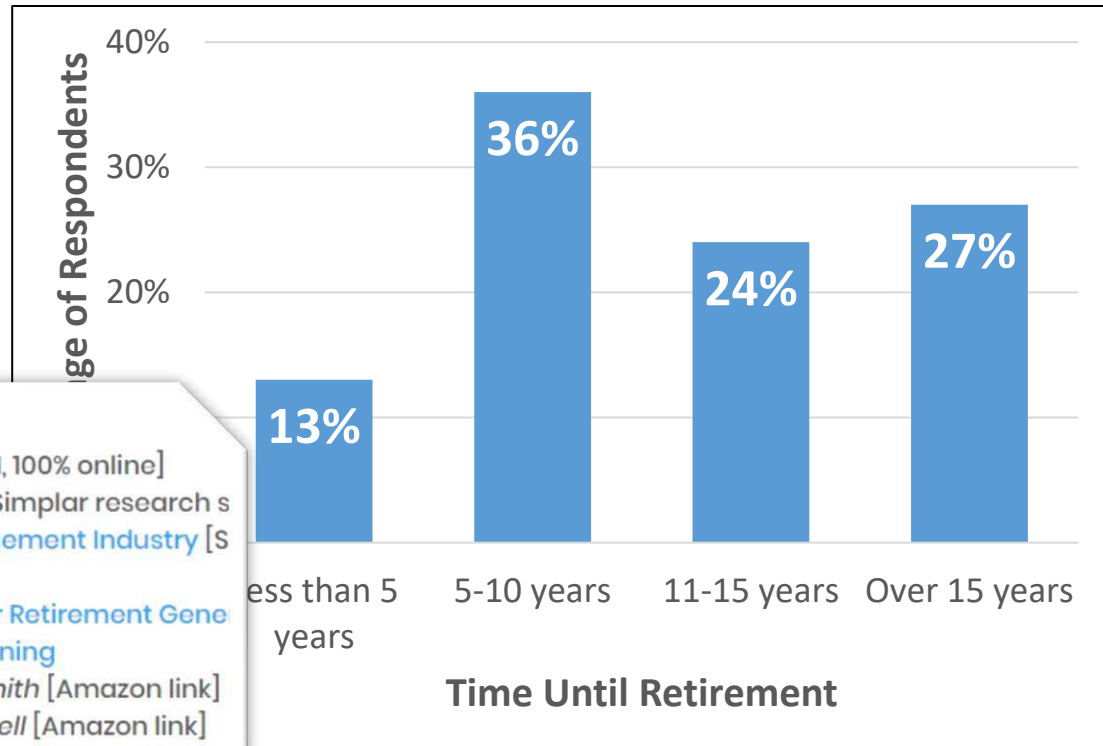
- plumbers
- electricians
- controls / low voltage
- plant operators
- stationary engineers
- carpenters
- generalists
- locksmiths
- painters
- supervisors
- O&M managers
- admin assistant
- help desk

**GET THE FULL REPORT HERE:** <https://bit.ly/omresearch>



# Retirement, anybody?

- Average age of FMs
  - 86% are 40+ years
  - 55% are 50+ years



## Resources

- [FM Training and Certification Program \[FMP, BIM, 100% online\]](#)
- [Facility Management Industry Demographics \[Simpliar research s](#)
- [Employment Barriers into US Healthcare Management Industry \[S](#)
- [SUCCESS...ion Blog Post](#) from Let's Talk Business
- [CII Research: Knowledge Transfer from the Near Retirement Gene](#)
- [CII Research: Best Practices for Succession Planning](#)
- [Succession: Are You Ready?](#) by Marshall Goldsmith [Amazon link]
- [Effective Succession Planning](#) by William Rothwell [Amazon link]

[www.simpliar.com/succession-planning/](http://www.simpliar.com/succession-planning/)

# Key Healthcare FM Info

- **National Healthcare Facility Director Study**
  - 217 unique directors and healthcare systems (US only)
- **57%** Healthcare FM workforce will be retiring with 10 years
  - 35% in 5-10 years
  - 22% in less than 5 years
- **Average experience prior to being a Healthcare FM**
  - Build Tradesperson: 10yrs trade + 3yrs Management
  - Facility Professional: 5yrs trade + 7yrs Management
  - Construction Professional: 10yrs trade + 9yrs Management
- **Average of 5 years** to advance from entry level Healthcare FM

# Key Skillsets Needs for Healthcare FMs

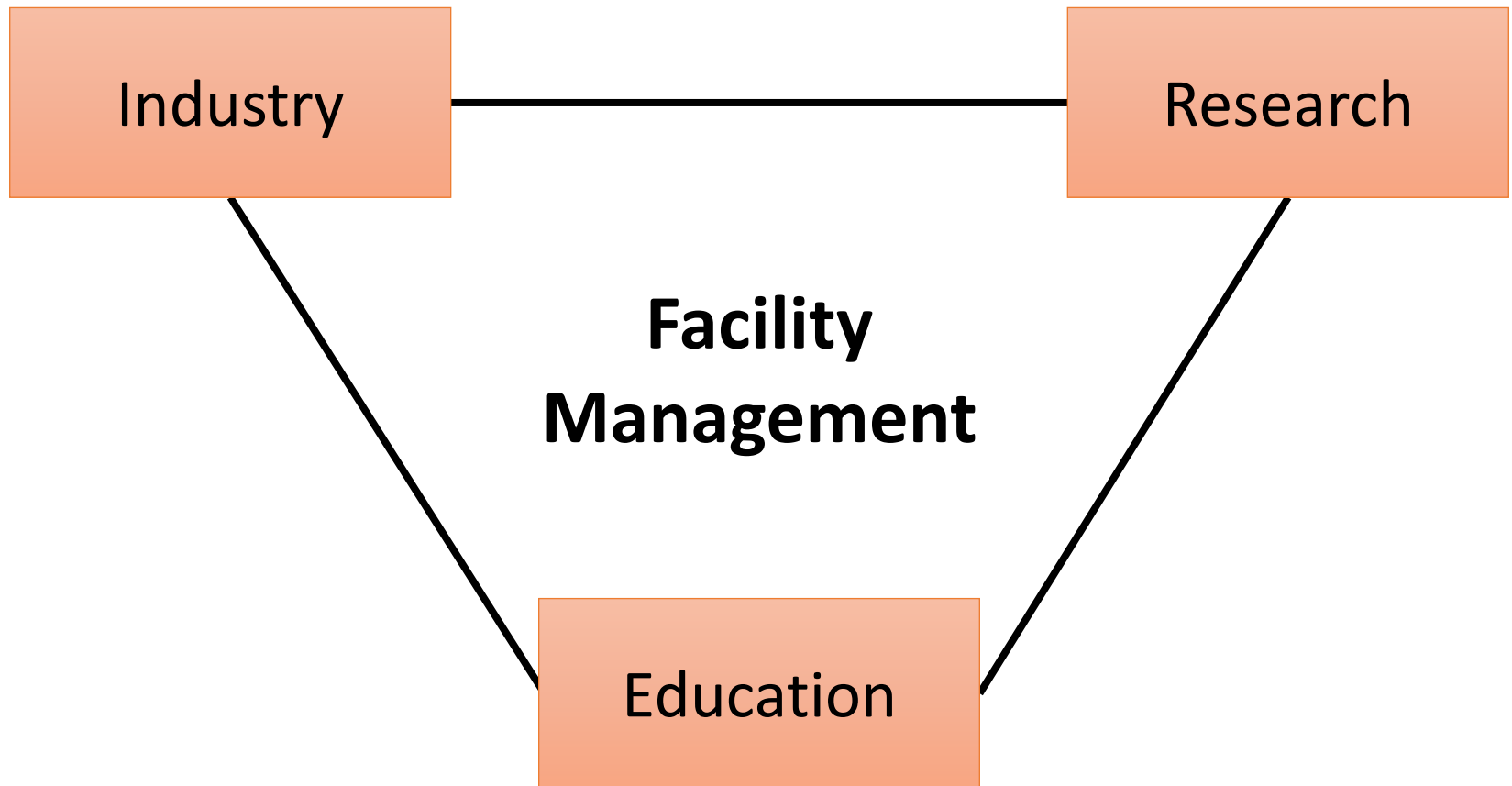
- **General Survey followed by Expert Delphi Panel of FM Directors**
- **Key skillsets needed for Healthcare FM (ranked order)**
  1. **Accreditation, regulatory, and code compliance for Healthcare Built Environments**
  2. **Systems in Healthcare facilities**
  3. **Infection control in the Healthcare built environment**
  4. **Life-Cycle Assessment Management concepts, practices and tools**
  5. **Operational excellence in Healthcare FM**
  6. **Healthcare construction project management and methods**
  7. **Employee and customer conflict resolution**
  8. **Clinical operations and medical equipment**
  9. **Materials management in Healthcare facilities**
  10. **Environmental services (EVS) in Healthcare facilities**

**So, the question is...**

**How fast can YOU get involved in the industry?**

**What makes FM so much different?**

# FM: Use-inspired Research



# Peer-reviewed FM Research

- **“Peer review” = others have assessed the validity of the work**
  - based on data vs. marketing
  - historical context / other work in the area
- **Open access – free to everyone**



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## Regular Articles

- 35  **Competitive Benchmarking with FM Customer and Occupant Satisfaction Surveys**   
Justin Dodd, Jake Smithwick and Mike Bown  
[Abstract](#) | [Full Text](#) | [PDF \(515 KB\)](#) | [Track Citations\(RSS | Email\)](#)
- 45  **Investigation of Stadium Performance: Case of NCAA Division I Football Stadiums as Non-Sporting Event Venues**   
Andrew Hammond, Seungbum Lee, Matthew Juravich and Alan Kornspan  
[Abstract](#) | [Full Text](#) | [PDF \(97 KB\)](#) | [Track Citations\(RSS | Email\)](#)
- 53  **Employment Barriers into US Healthcare Management Industry for New Facilities Management College Graduates**   
Steven Call, Kenneth Sullivan and Jake Smithwick  
[Abstract](#) | [Full Text](#) | [PDF \(560 KB\)](#) | [Track Citations\(RSS | Email\)](#)
- 62  **Assessing users' perception of Facilities Management services in a Public University: A case study approach**   
Sunday Olarinre Oladokun and Cyril Ayodele Ajayi  
[Abstract](#) | [Full Text](#) | [PDF \(108 KB\)](#) | [Track Citations\(RSS | Email\)](#)
- 74  **Process Model for the Food Service in Swiss Hospitals**   
Oliver Weisshaupt, Gabriela V. Leiblein-Züger and Susanne Hofer  
[Abstract](#) | [Full Text](#) | [PDF \(2737 KB\)](#) | [Track Citations\(RSS | Email\)](#)
- 83  **Code Compliance and Functionality of Low-Energy Automatic Doors at Universities**   
Michael Bown and Mark D. Hutchings  
[Abstract](#) | [Full Text](#) | [PDF \(122 KB\)](#) | [Track Citations\(RSS | Email\)](#)



# Other articles

- A Strategic Approach to Target Capital Investment on Facility Assets: Literature Review
- Application of Lean Six Sigma to Improve Service in Healthcare Facilities Management: A Case Study
- Bribery: Am I a Criminal? Implications of the US Foreign Corrupt Practices Act and the UK Bribery Act in the Outsourced FM Environment
- Nauvoo Illinois Historic Site: A Facilities Management Perspective
- Point Cloud Applications for Disaster Remediation
- The Development of the Outsourced Facility Service Industry in Europe
- The Impact of the Physical Work Environment on Organizational Outcomes: A Structured Review of the Literature
- An Aging Workforce and Work Environment: A Hotel Case Study in China
- Book Review: Welcome to Your World
- Case Study of Load Shifting Using Thermal Energy Ice Storage in Public Facilities
- Impact of Solar Reflectance Attenuation and Roof Cleaning on a Cool Roof: Assessing Return on Investment for Facility Management

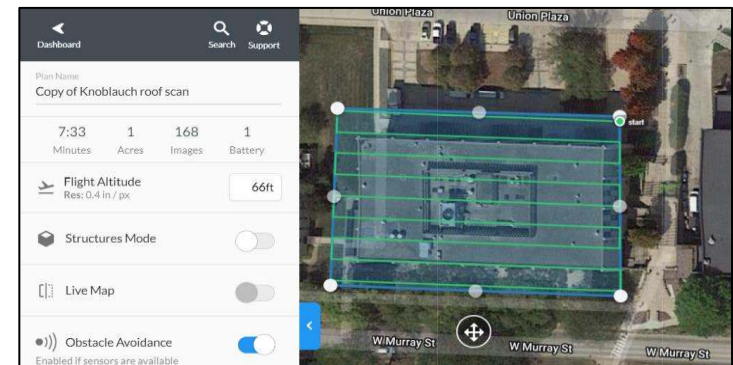
# Examples

# Roof Inspections with a Drone

- Feasibility of using drones vs. physical inspections
- Faculty partnered with the local FM on the process & collected data
- Published research results

Item	Cost	Description	
DJI Mavic Pro Drone Basic	\$850	Standard DJI Model with stock gimbal and lens filter.	
UAV Storage and operation peripherals	\$450	Hard-case storage containers, I-pad mini (used), extra propellers, 4-battery charging manifold, carrying pack.	
FAA 107 UAV Licencing Test	\$150	Taken at participating airports	
Study Time for UAV Licencing Test	Approx 12 hours	FAA document and youtube training videos used as study guides. 70% accuracy for passing grade.	
Inexpensive Practice Drone	\$20-60	Drone with extra batteries and propeller protectors. Price range is between \$20-60 for economic non-GPS models.	
Flying Practice Time	20-40 Hrs	Recommended to practice at sporting events, weddings, hikes etc. Outdoors, <u>not indoors</u> .	
Software Learning and Practice	20 hrs	DJI unit software, Dronedeploy, Pix4d, Litchi etc. Recommend using free software first, then free trial software period before deciding on a software to purchase. Must learn specifics in Flight Planning programming.	
<b>Total Cost &amp; Time</b>	<b>\$1,510 72.5 Hrs</b>		

<https://www.jfmer.org/doi/full/10.22361/jfmer/93832>



# Load Shifting w/ Thermal Energy Ice Storage

- Method of producing energy in one time period for the use during a different time period.
- Ice storage produced during energy “off-peak” hours used to shift energy “on-peak” demand load.
- RESULTS: annual savings of \$40K; ROI of 3.31 years
- <https://www.gainesville.com/news/20150705/new-library-cooling-system-may-be-model-for-others>



# Janitorial Auditing

**Metrics need to have a purpose... positive accountability**

- How do we improve?
- What does the supplier recommend?

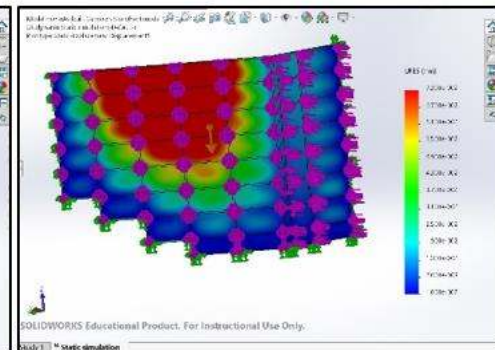
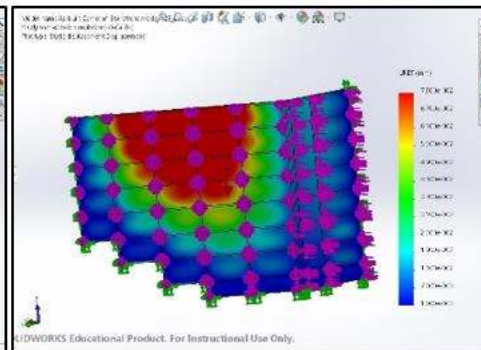
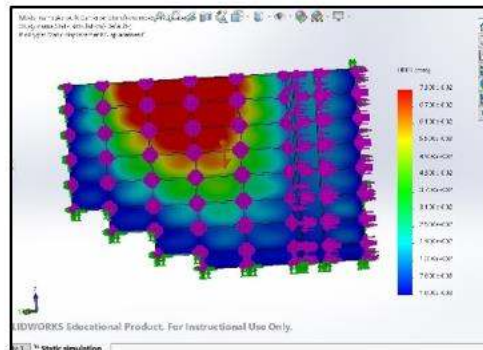
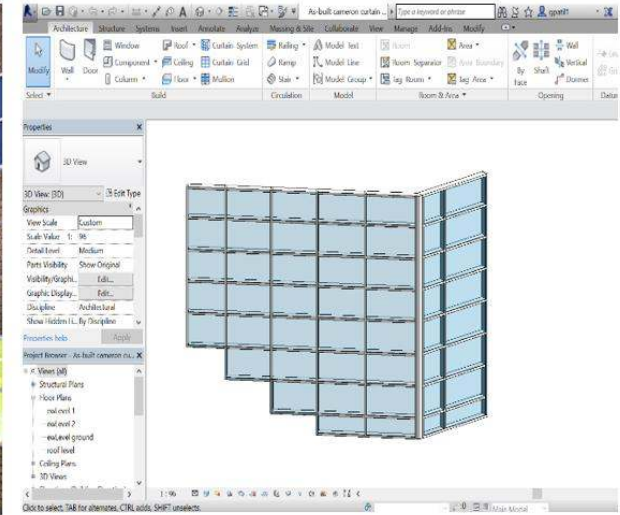
- Read the article: <http://bit.ly/omaudit>



**May 6, 2020  
webinar!**

# Structural Wall Integrity Investigation

Dr. Don Chen  
[dchen9@uncc.edu](mailto:dchen9@uncc.edu)



**Figure 13.** Deformation of the As-built Model (Left: 60mph; Middle: 65mph; Right: 70mph).

# Disaster Remediation



FIGURE 1.—Site photos of initial damage scan and after demolition scan areas.

<https://www.jfmer.org/doi/full/10.22361/jfmer/75115>

Dr. Glenda Mayo  
[Glenda.Mayo@uncc.edu](mailto:Glenda.Mayo@uncc.edu)



Initial Overlay of Point Cloud



Design Process

FIGURE 2.—Overlay of cloud data to assess structural damage and for redesign. (Provided by Crump Engineering Works, PLLC.)

# Solar Reflectance Attenuation and Roof Cleaning on a Cool Roof

- Cost savings / payback period of cleaning a roof
- Full details: <https://www.jfmer.org/doi/full/10.22361/jfmer/81613>

**ROI #: Impact of Solar Reflectance Attenuation and Cleaning Cost**

KWh Annual Consumption	2,473,922	
Projected Savings	30%	
kWh \$	\$0.088	
kWh Inflation (annually)	1%	
Annual Cleaning Costs	\$3,208.73	
Roof Square Footage	65,313	
\$ per SF	\$13.09	\$854,947.17
SIES	0%	\$0.00
Contingency	0%	\$0.00
<b>Estimated Project Value</b>	<b>\$854,947.17</b>	

kWh Inflation	Year	Before				After				Year	Payback	Cost Reduction due to Solar Reflectance Attenuation	Payback of Cleaning
		kWh	\$ kWh	Yearly \$	Cumulative \$	kWh	\$ kWh	Yearly \$	Cumulative \$				
1%	1	2,473,922	\$ 0.09	\$ 217,705.14	\$ 217,705.14	1,731,745	\$ 0.08	\$ 132,288.80	\$ 132,288.80	1	\$ 85,391.04	\$ 85.39	\$1,208.42
1%	2	2,473,922	\$ 0.09	\$ 219,802.19	\$ 437,507.33	1,731,745	\$ 0.08	\$ 133,917.82	\$ 266,211.12	2	\$ 121,235.28	\$ 206.23	\$12,294.41
1%	3	2,473,922	\$ 0.09	\$ 222,061.01	\$ 659,568.33	1,731,745	\$ 0.08	\$ 135,496.71	\$ 401,707.83	3	\$ 187,805.50	\$ 426.83	\$18,369.63
1%	4	2,473,922	\$ 0.09	\$ 224,301.82	\$ 883,870.15	1,731,745	\$ 0.08	\$ 137,011.27	\$ 538,719.11	4	\$ 265,191.05	\$ 636.83	\$24,990.88
1%	5	2,473,922	\$ 0.09	\$ 226,544.84	\$ 1,110,414.99	1,731,745	\$ 0.08	\$ 138,561.39	\$ 677,280.48	5	\$ 333,154.80	\$ 722.84	\$30,976.16
1%	6	2,473,922	\$ 0.09	\$ 228,810.29	\$ 1,339,225.29	1,731,745	\$ 0.08	\$ 140,147.20	\$ 817,427.69	6	\$ 401,797.38	\$ 821.79	\$37,823.90
1%	7	2,473,922	\$ 0.09	\$ 231,098.39	\$ 1,570,323.69	1,731,745	\$ 0.08	\$ 141,768.87	\$ 969,196.56	7	\$ 471,127.16	\$ 934.96	\$45,251.89
1%	8	2,473,922	\$ 0.09	\$ 233,408.37	\$ 1,803,732.04	1,731,745	\$ 0.08	\$ 143,386.56	\$ 1,122,583.12	8	\$ 541,148.91	\$ 1,069.32	\$52,490.79
1%	9	2,473,922	\$ 0.10	\$ 235,743.47	\$ 2,039,475.50	1,731,745	\$ 0.10	\$ 145,020.42	\$ 1,277,603.55	9	\$ 611,872.98	\$ 1,201.77	\$60,192.61
1%	10	2,473,922	\$ 0.10	\$ 238,100.90	\$ 2,277,576.40	1,731,745	\$ 0.10	\$ 146,676.62	\$ 1,434,279.18	10	\$ 683,303.22	\$ 1,341.27	\$68,774.66
1%	11	2,473,922	\$ 0.10	\$ 240,481.91	\$ 2,518,158.31	1,731,745	\$ 0.10	\$ 148,337.34	\$ 1,592,616.52	11	\$ 765,447.79	\$ 1,489.88	\$78,201.89
1%	12	2,473,922	\$ 0.10	\$ 242,886.73	\$ 2,761,045.04	1,731,745	\$ 0.10	\$ 150,000.71	\$ 1,752,617.23	12	\$ 848,318.91	\$ 1,648.77	\$88,296.99
1%	13	2,473,922	\$ 0.10	\$ 245,315.90	\$ 3,006,360.94	1,731,745	\$ 0.10	\$ 151,672.82	\$ 1,914,290.05	13	\$ 931,968.49	\$ 1,818.29	\$98,573.74
1%	14	2,473,922	\$ 0.10	\$ 247,768.75	\$ 3,254,129.36	1,731,745	\$ 0.10	\$ 153,336.12	\$ 2,077,626.17	14	\$ 974,228.12	\$ 2,000.00	\$108,655.20
1%	15	2,473,922	\$ 0.10	\$ 250,246.44	\$ 3,504,375.80	1,731,745	\$ 0.10	\$ 155,012.51	\$ 2,242,638.68	15	\$ 1,081,313.88	\$ 2,132.79	\$119,469.31
1%	16	2,473,922	\$ 0.10	\$ 252,748.90	\$ 3,757,124.74	1,731,745	\$ 0.10	\$ 156,692.23	\$ 2,409,330.92	16	\$ 1,127,127.72	\$ 2,278.90	\$128,743.14
1%	17	2,473,922	\$ 0.10	\$ 255,276.39	\$ 4,012,401.13	1,731,745	\$ 0.10	\$ 158,384.46	\$ 2,577,715.39	17	\$ 1,200,729.44	\$ 2,402.12	\$137,140.71
1%	18	2,473,922	\$ 0.10	\$ 257,829.16	\$ 4,271,230.29	1,731,745	\$ 0.10	\$ 160,089.41	\$ 2,847,804.80	18	\$ 1,280,389.39	\$ 2,619.81	\$150,802.26
1%	19	2,473,922	\$ 0.11	\$ 260,407.45	\$ 4,533,637.74	1,731,745	\$ 0.11	\$ 161,802.21	\$ 3,119,607.01	19	\$ 1,368,191.62	\$ 2,822.48	\$168,123.57
1%	20	2,473,922	\$ 0.11	\$ 263,011.52	\$ 4,799,650.20	1,731,745	\$ 0.11	\$ 163,526.07	\$ 3,283,133.08	20	\$ 1,428,008.08	\$ 3,015.87	\$190,401.61

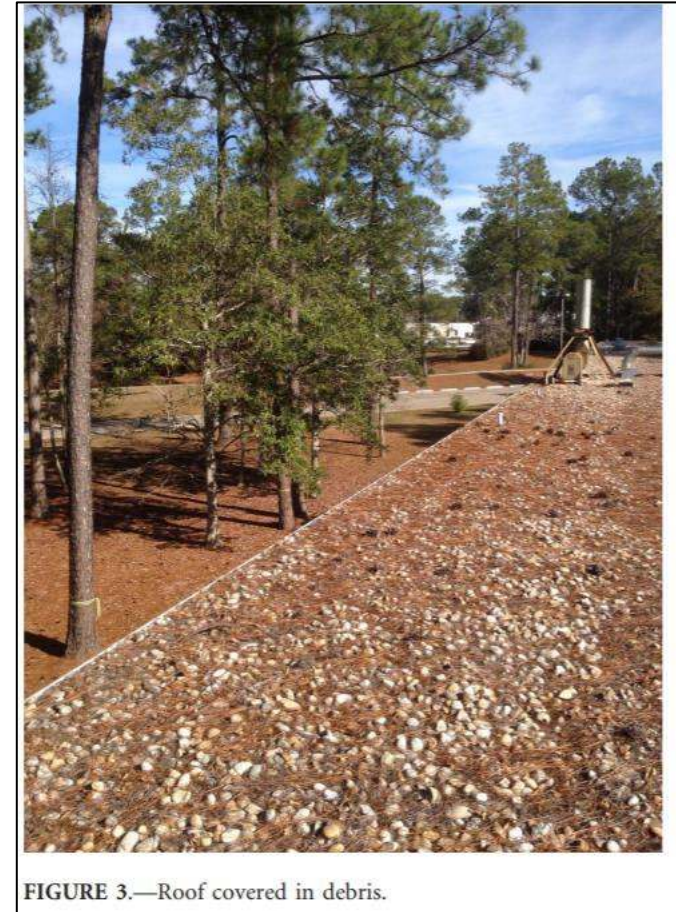


FIGURE 3.—Roof covered in debris.



# Prepare Yourself for a Career in FM

**Training**

**Credentialing**

**Professional Development**



<https://jobnet.ifma.org/>



## Facility Management Training & Development Framework

Facility Management Credentials



Operations and Maintenance | Project Management | Finance and Business | Leadership and Strategy

Strategy and Alignment for Sustainable Facility Management | Managing Sustainable Facilities | Operating Sustainable Facilities



### Facility Manager 11 Core Competencies

Defined by IFMA's Global Job Task Analysis

1. Communication
2. Facility Information Management and Technology Management
3. Finance and Business
4. Leadership and Strategy
5. Occupancy and Human Factors
6. Operations and Maintenance
7. Performance and Quality
8. Project Management
9. Real Estate
10. Risk Management
11. Sustainability



Facility Management Workshop Series



Workshop 1: Introduction to Facility Management | Module 1: Introduction to Facility Management  
 Workshop 2: Operations and Maintenance | Module 1: The Basics of Operations and Maintenance | Module 2: The Basics of Building Systems | Module 3: The Application of Technology in Operations and Maintenance | Module 4: The Implications of Health and Safety in Managing Buildings  
 Workshop 3: Work Management in Facilities | Module 1: Supervisory Roles in Facility Work Management | Module 2: Applying Work Management to Building Systems | Module 3: Work Management Tools in Facility Management | Module 4: Managing Contractors in Facility Management | Module 5: Managing and Tracking Customer Relations in FM

Environmental & Hygiene		Security	Customer Services	Technical Services						
Cleaning Operations	Landscaping	Security Operations	Call Center Supervisor / Operator	Building Repairs & Maintenance	Electrical	Fire	HVAC	Plumbing & Drainage	Energy & Building Controls	Lift
<b>Management of Customer Services (Level 4)</b> SIX years property management industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Gardening Works (Level 4)</b> SIX years property management industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Security Operational Works (Level 4)</b> SIX years property management industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Customer Services (Level 4)</b> SIX years property management industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Building Repair and Maintenance Works (Level 4)</b> SIX years technical service industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Electrical Works (Level 4)</b> SIX years technical service industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Fire Works (Level 4)</b> SIX years technical service industry (including FOUR years related job experience plus relevant training programs)	<b>Management of HVAC Works (Level 4)</b> SIX years technical service industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Plumbing &amp; Drainage Works (Level 4)</b> SIX years technical service industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Energy &amp; Building Controls Works (Level 4)</b> SIX years technical service industry (including FOUR years related job experience plus relevant training programs)	<b>Management of Lift Works (Level 4)</b> SIX years technical service industry (including FOUR years related job experience plus relevant training programs)
<b>Management of Cleaning Works (Level 3)</b> FIVE years property management	<b>Management of Gardening Works (Level 3)</b> FIVE years property management industry	<b>Management of Security Operational Works (Level 3)</b> FIVE years property management industry (including THREE years)	<b>Management of Customer Services (Level 3)</b> FIVE years property management industry (including THREE years related job experience plus relevant training programs)	<b>Management of Building Repair and Maintenance Works (Level 3)</b> FIVE years property management industry (including THREE years related job experience plus relevant training programs)	<b>Management of Electrical Works (Level 3)</b> FIVE years technical service industry	<b>Management of Fire Works (Level 3)</b> FIVE years technical service industry (including FOUR)	<b>Management of HVAC Works (Level 3)</b> FIVE years technical service industry (including FOUR years)	<b>Management of Plumbing &amp; Drainage Works (Level 3)</b> FIVE years technical service industry (including THREE years related job experience plus relevant training programs)	<b>Management of Energy &amp; Building Controls Works (Level 3)</b> FIVE years technical service industry (including THREE years related job experience plus relevant training programs)	<b>Management of Lift Works (Level 3)</b> FIVE years technical service industry (including THREE)

# “The Accidental Profession”

- **The built environment as a whole has a very low maturity education to career “pathway” (compared to other industries, such as medical, legal, etc.).**
- **Existing training/development is built for more compliance type training/skills.**
- **Barriers to entry, such as high experience levels, years in similar fields, etc.**



# Research: Professional Training in the Built Environment

- **Pedagogy vs Andragogy**
- **Large gaps in andragogy**
  - Less than 6 research tests published (where adults were measured)
- **Many needs identified, competencies, disciplines, etc.**
- **No models to design and execute**
- **Area of recent research and testing of Simplar**

# An Approach to Adult Training

## Learner & Content Considerations

### Questions to Consider for Adult Learners

- What is the average participant's need for this skill?
- Has the need for the instruction been empirically validated?
- What have been the learners' previous experiences?
- How relevant is the topic of the instruction to the learners?
- How important is the topic/skill to the learners?
- What is the benefit to the individual learner of a particular skill?

### Construction Industry Considerations

- To better understand the participants' background, a survey was suggested that contains questions pertaining to their education, field of education, credentials/certification, company working for, at a minimum.
- The instructor considers the potentially conflicting experiences across construction industry stakeholders (e.g., owner, contractor, etc.) and seeks to unify these sentiments to produce a common understanding.
- Relevance, importance, and benefits are measured through a general industry advisory panel or targeted practical application and used to measure these aspects as well.

### Application to this Research Test

- The seminar was offered to members of a professional association to attend, based upon the advertisements and pre-registration cost.
- The professional association identified the topic as relevant, important, and beneficial to their members.
- The attendance was not limited to a particular project; the association has a mix of owner, contractor, and designer.
- Via a pre-training event survey, demographics were collected to inform the presenters and facilitate workshop content.
- The group of facilitators served as the informal pilot for the initial concepts and topics to be instructed.

## Design

### Questions to Consider for Adult Learners

- What skills/knowledge are intended to be taught?
- How complex will these skills be to the average participant?
- How new will these skills be to the average participant?
- How does the topic relate to learners' daily tasks/common situations?
- How will real-world or job-specific problems versus general topics be introduced?
- How will the learner be able to share with others their point of view and experiences?
- How will the learner be held accountable and responsible for their learning?
- How will the learner be able to place what they learn within the context of their work and understanding?
- When presented with different scenarios, how will the learner be prompted to reflect and use their previous experiences?
- How will the learner be prompted to reflect and use their previous experiences?
- How will the instructor ensure the learner is confident to change and adapt to new information?
- How will the learner understand the variety of choices they can make as they learn?
- What instructional media/technology is appropriate?

### Construction Industry Considerations

- Frame content to be learned in reference to common challenges encountered by participants that they can relate to.
- Consider the use of team exercises within groups that closely resemble a project (i.e., owner/end user, authorities, sub-disciplines, and designer).
- Select examples and team exercises that learners can relate to. Ask participants for their perspectives of construction project stakeholders, and determine if the different under this perspective.
- Integrate challenges faced by construction projects, without identifying specific project names, to help them reflect on their own experiences.
- As construction projects involve the balancing of stakeholder expectations, typical project stakeholders when describing alternatives.
- Consider how learning the topic is beneficial to multiple construction project success, and meeting the customer's needs.

### Application to this Research Test

- The term "participant" is intentionally used in any documentation and communication to ensure all participants are included.
- The initial seminar began with placing the topic within the challenges of the construction industry to ensure all participants can relate to it.
- A team exercise/workshop is created using a scenario that represents a construction project team could understand, while not having unnecessary details from the purpose.
- The group of facilitators served as the informal practitioner committee during design.
- The workshop was conducted in teams that represented a similar distribution of roles to ensure multiple perspectives. Facilitators monitored discussions to ensure all participants were heard.
- Through the workshop scenario scope of services and the team environment, the teams have to complete the workshop.
- In the seminar, practical examples are presented and participant feedback is collected to inform the design of the scenario scope of service is another useful example and point of view of the construction industry.

## Execution

### Questions to Consider for Adult Learners

- How will the instructor refer to the learners and avoid using the term "student"?
- Is the environment welcoming and not dominated by the appearance of the instructor is the subject matter expert?
- Is the environment welcoming of feedback to improve the course/procedure?
- What will be done if the approach to getting learners to share with others is not working as intended?
- Is the instructor able to engage learners to choose and take on multiple roles, if not, can something be adapted without minimizing the exercise?
- Is the instructional media selected being effective in enhancing the learning experience, or can something be adapted without minimizing the instruction?

### Construction Industry Considerations

- In lieu of the term "student," the instructor can use the construction industry stakeholder terms (i.e., owner, contractor, designer, etc.), when needed use terms such as: participants, team members, etc.
- The delivery of the instruction creates an environment that construct can connect and relate, such as a construction project.
- The instructor should moderate the overall tone of sharing and giving feedback to ensure it is not heavily weighted for or against any one key construction project challenge.
- The physical layout of the room or location should be open and allow for movement around to be able to share. If the instruction is held at a construction site, some room modifications may be needed.

### Application to this Research Test

- Initially, there was a single instructor, then participants worked within groups, with multiple facilitators guiding them through their team exercise.
- Due to the size of the seminar, it would not be possible to maintain the workshop in such a large group setting. The learners worked with the smaller rooms.
- Continuous improvement suggestions were solicited during the debriefing session and facilitators shared their thoughts after the seminar.

## Evaluation

### Questions to Consider for Adult Learners

- How will it be determined/measured that the participants have obtained the skills/knowledge intended to be taught?
- How will it be determined/measured that the participants have obtained the skills/knowledge intended to be taught? How will learners' satisfaction with the training be measured?
- How will it be determined/measured that the participants are using the skills/knowledge in their jobs?
- How will any benefits that the company experiences from the learner and their learning be measured?

### Construction Industry Considerations

- Incorporate feedback from multiple project stakeholders for a balanced perspective.
- Consider measuring the applications of the skills/knowledge on a construction project versus at work, generally.
- As projects are executed in a dynamic team environment, consider the impact of the project team on the learner's ability to apply their learning.
- Use the company's performance appraisal process as a potential means to identify company benefits.

### Application to this Research Test

- Application of the skills was measured via the team submissions from the workshop.
- A learner satisfaction questionnaire was used as part of the pilot testing process for the workshop.
- A facilitator/observer role was created, which required two to three people to observe each team and assess the team's effectiveness and overall performance as a team.

# The Unmet Need

- **94%** of organizations agree that FM training is needed
- **30%** of organizations have internal FM training



**Why should companies invest  
in their employees?**

# Research Studies Conducted

- **Contacted 7,000+ FMs from over 6,000 companies.**
- **50 global organizations in FM that represented over a dozen different industry sectors.**
  1. **Value of Credentials & Training to Professionals (2016 study)**
  2. **Value of Credentials & Training to Companies (2017 - 2018 study)**



Evaluating the Value: International Facility Management Association (IFMA) Facility Management Credentials



# **12%** performance gain for every \$2,000 invested

**For every \$2,000 that a company spends on an employee to get credentialed, they experience a 12% increase in employee performance on average.**

**The average cost of 1% enhancement in employee performance is \$164.**

**70%** of organizations rate employees with certifications or credentials as being higher performing

**Why should you invest in  
yourself?**

# 15:1

## Return on Investment

**Across 5 years and includes the costs of materials & fees to attain a credential, based on non-member pricing (ROI will be greater if member pricing/discounts are considered)**

# What are some other reasons?

- ✓ Increase your salary and overall earning potential (\$6,000/year or 7% on average)
- ✓ Attain your professional development goals
- ✓ Be better situated for a promotion



# Many Opportunities

## UNC Charlotte

- Graduate degree (M.S.)
- Unique focus of construction / engineering + facility management
- Collaborative relationship between Construction, Fire Protection, Applied Energy
- Online courses & in-person
- STEM (can apply for OPT extension)

## Arizona State University

- Graduate degree (M.S.)
- Professional Certificate
- 100% online options or in-person
- Strong industry support

# Key Takeaways from Leadership

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1. Importance of regular group calls to promote knowledge sharing
2. VP being on the call is important (as available)
  - Leadership able to gauge potential and initiative of employees on call (ASU sends attendance and questions)
3. Be ready to offer further training to those that succeed
  - Typically few leaders emerge from among the group
  - They tend to mentor others that struggled and motivate them to finish
  - They need to be challenged with further training
4. VP utilizes compiled deliverables to show Executives the ROI of training
  - Justifies the initial and future investments in employees' development
  - Easier to make facility enhancements as a result

# So, what can YOU do?

## Students / Up & Comers

- Get **INVOLVED**... apply for the IFMA Foundation Scholarships
- Take coursework related to operations
- Find an FM and get to know them

## Seasoned Professionals

- Continually learn and keep up-to-date with professional development (credentials & certificates)
- Help start a student chapter
- Mentorship!
- Give back – teaching opportunities



# Summary

- Careers in FM are: well paid, flexible, reliable, focused on sustainability/operations, etc.
- Great opportunity for young talent to pursue
- Seasoned professionals should get involved to spur opportunities, maintain growth
- Multiple ways to prepare yourself for a career in FM (formal degrees, certificates)
- Training has a **VERY HIGH ROI**
- Never a better time to start than now – people tend to only get busier (“I’ll do it when I have more time...” You will never have more time than you do now!)

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