UCF Master’s of Science in Engineering Management: MSEM as a Component of a Career Path

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Executive Sponsor from a Partnering Organization
We’ll Offer a Perspective on Career & Educational Paths.

Prospective students and their corporate sponsors maybe asking themselves:
– What is the right or best master’s program for the professional employee?

This short presentation provides a response to this question. To answer this broader question we will answer four questions:

1. What do we believe about advanced degrees?
2. What are the different career and educational paths?
3. What challenges are organizations facing?
4. How can the UCF MSEM program enable the professional to make a difference in their career and organization?
What Do We Believe About Advanced Degrees?

- Advanced education is important, life-long learning is important
- MSEM and MBA are valuable depending on your role
- MSEM and MBA deliver unique outcomes
- The “best” program is based on the function of:
  - The individual’s
    - Career level
    - Career objectives
    - Career trajectory/path
  - Corporate environment

- As one advances in his/her career the student can supplement the currently applicable skills from the UCF MSEM with MBA type courses
  - Many students will be in project/solution delivery roles with future potential for broader business leadership roles

- As Dennis Lind says,
  - Your Promotability = Performance + Preparation + Organization fit/need
    - Performance = Delivering success for your organization, those around you, and you
    - Preparation = Filling the gaps in experience, education, skills
    - Organization fit/need = Meeting the needs of the organization.
What are the Different Career and Educational Paths?

As shown on the next slide, we have simply defined three different career paths for an individual moving from an “individual contributor” role to:

1) **Expert Individual Contributor**—this path represents the individual becoming more technically proficient within their discipline.

2) **Project Manager or Technical Lead**—this path represents the individual becoming more focused on delivering solutions or projects through a team effort.

3) **Running the Business**—this path represents the individual becoming more responsible for the total operation of a business.

For each career path, there may be a more appropriate educational path to take. Generally, we believe the educational path to take is function of the career path the professional is pursuing.
What are the Different Career and Educational Paths?

- **Individual Contributor** (e.g., Engineer, Computer Scientist, Scientist)
- **Expert Individual Contributor** (e.g., Engineer, Computer Scientist, Scientist)

**Path 1**
- MSEM
- Project Manager or Technical Lead
- MSEM

**Path 2**
- MSEM
- Project Manager or Technical Lead
- Advanced Degree within the Discipline

**Path 3**
- MBA

- Run the Business
  - MBA
- Engineering Manager (Executive)
  - MBA
What Challenges are Organizations Facing?

- As shown on the next few slides, organizations are faced with three critical challenges:
  - Making their Strategy Real
  - Driving Innovation
  - Delivering Solutions.

- The MSEM program provides a student with the ability and confidence to successfully lead the delivery of innovative solutions that helps the organization make their strategy real.

- The data shared on the next two pages was collected by corporate sponsors of and alumni from the MSEM program.
What Challenges are Organizations Facing? Making their Strategy Real

(Kotnour, 2015)
What Challenges are Organizations Facing?

Driving Innovation

(Kotnour, 2015)
What Challenges are Organizations Facing?
Delivering Solutions

Project Success Rates

(Standish Group, Chaos Studies)
How can the UCF MSEM Program Enable the Professional to Make a Difference in Their Career and Organization?

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
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<tbody>
<tr>
<td>Degree</td>
<td>Master of Science in Engineering Management</td>
</tr>
<tr>
<td>Focus</td>
<td>Project delivery of solutions that are strategically important</td>
</tr>
<tr>
<td>Curriculum</td>
<td>Life-cycle focus within 11 interconnected courses</td>
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<tr>
<td>Learning Approach</td>
<td>Program-wide, integrated project; cases; and reflection papers</td>
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<tr>
<td>Delivery</td>
<td>Application sessions augmented with online lectures</td>
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<tr>
<td>Professors</td>
<td>Experts with support from industrial scholars</td>
</tr>
<tr>
<td>Length</td>
<td>~24 months</td>
</tr>
<tr>
<td>Location</td>
<td>Professional setting with easy access</td>
</tr>
<tr>
<td>Cost</td>
<td>~$30,000 (All books, laptop computers, software, meals)</td>
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<tr>
<td></td>
<td>All service completed for students—no need to go on campus</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Support processes to allow students to focus on learning</td>
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How can the UCF MSEM Program Enable the Professional to Make a Difference in Their Career and Organization?

<table>
<thead>
<tr>
<th>Integrated and “Feeding” Course Sequence</th>
<th>Communicate</th>
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<tbody>
<tr>
<td>Strategically Scope the Need &amp; Solution</td>
<td>Determine the Business Case #1: Verify the Need</td>
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<tr>
<td>Develop Creative Solutions</td>
<td>Determine the Business Case #2: Select the “Best” Solution</td>
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<tr>
<td>Connect the Dots: Strategy, Portfolio, and Project</td>
<td>Define and Manage Requirements</td>
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<tr>
<td>Critical and Systems Thinking</td>
<td>Define the Project Plan to Deliver the Solution</td>
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<td></td>
<td>Determine the Business Case #3: Make the Financial Decision</td>
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<td>Lead the Project Team</td>
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How can the UCF MSEM Program Enable the Professional to Make a Difference in Their Career and Organization?

Stage Gate Process

**Senior Management’s Gate View**
- How well does this align with our strategy?
- How well is the “need” business case defined?
- How well have we developed ideas to pursue?
- Which idea is the best one to pursue?
- How do I make the decision?
- What is the (human) system?
- How will we deliver the solution?
- What is the financial business case?
- How well is the “financial” business case?
- Do we have the team in place?

**Solution Provider’s View**
- What is the strategic need?
- What is the level of need?
- What are the potential concepts?
- How do I make the decision?
- What is the (human) system?
- How will we deliver the solution?
- What is the financial business case?
- How well do we have the system defined?
- How well do we have a plan to deliver the solution?

**Do we pursue?**

**Do we continue?**
- How healthy is the solution?
- How well are we progressing?