

Panel Framing Strategies for Integrating Lean Into The Curriculum

Lean Educator Conference April 25, 2008



Apply Lean Principles

- Specify value: Value is defined by customer in terms of specific products and services
- Identify the value stream: Map out all end-to-end linked actions, processes and functions necessary for transforming inputs to outputs to identify and eliminate waste
- Make value flow continuously: Having eliminated waste, make remaining value-creating steps "flow"
- Let customers pull value: Customer's "pull" cascades all the way back to the lowest level supplier, enabling just-in-time production
- Pursue perfection: Pursue continuous process of improvement striving for perfection



Value Expectations

- Student and family Well educated for life long career & ready for entry level employment
- Employer Prepared for current workplace, including entry level lean six sigma knowledge

LAI Lean Academy Self-Assessment Scale

- 0 Unaware To have no exposure to or knowledge of...
- 1 Aware To have experienced or been exposed to...
- 2 Ready To be able to participate in and contribute to...
- 3 Capable To be able to understand and explain...
- 4 Skilled To be skilled in the practice or implementation of...
- 5 Expert To be able to lead or innovate...

...Lean Enterprise Knowledge Areas

lean.mit.edu/ednet

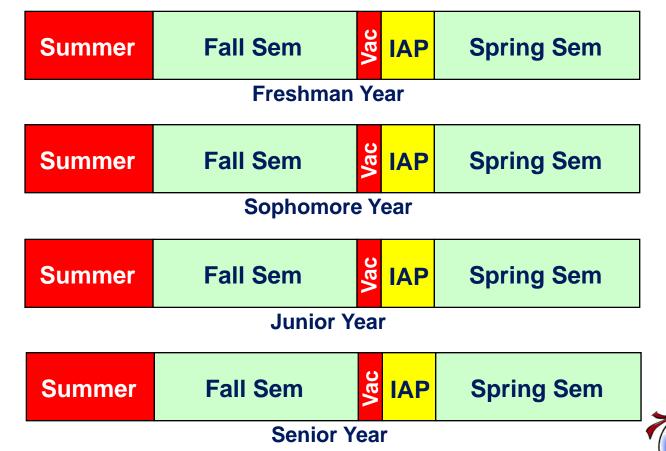


Undergraduate Value Stream

Notional Based on MIT Calendar



HS Grad



Where are opportunities to add Lean value?

Univ

Grad



Panelists

- Including Lean in Capstone Courses
 - Prof. Charles Eastlake, Embry-Riddle Aeronautical Univ
- Deploying the LAI Lean Academy as a Special Elective
 - Prof. Annalisa Weigel, MIT
- Linking Lean Education to Summer Internships
 - Richard Lewis II, COO Rolls Royce Indianapolis (retired) and MIT Senior Lecturer
- Minor in Lean For Engineering Students
 - Prof. Juan Carlos Ituarte Zarza, Tecnologico de Monterrey Campus Querétaro



Other Examples of Curriculum Integration

- UAH I&SE integrated lean material across their curriculum.
- Jacksonville developed a senior elective
- USC I&SE integrated LAI Lean Academy content into Senior Capstone Design class
- ASU Aero & Mechanical Engineering integrated material into senior elective on the Engineering Profession
- U of Iowa Business School revamped an existing Operations Management course which had been primarily mathematical
- Stanford, LMU, UI, USF, UVA and other have integrated into or developed graduate courses

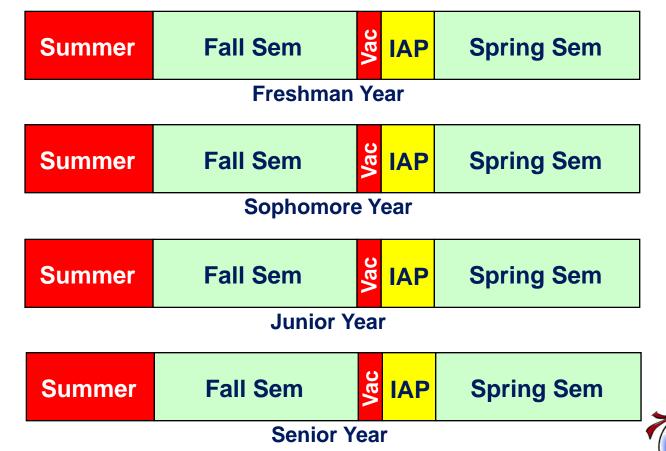


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Audience Participation

- Fill out the survey to help defined customer value
 - Please fill it out no matter what your role or background.
- What questions do you have for the panel?
- Do you have additional suggestions of strategies for integrating lean six sigma knowledge into undergraduate or graduate curriculum?