IISE, UL team up for innovative online training

Top quality web-based modules offer instruction for 6 lean and Six Sigma belts, 5 certificates

By Keith Albertson
Lean Six Sigma training became a little more convenient and comprehensive this summer thanks to a new collaboration between IISE and UL that offers quality, flexibility and a return on investment to participants.

The launch of “IISE-UL: The New Generation of Lean Six Sigma 4.0” offers web-based, customizable courses in 22 modules designed to allow professionals seeking to learn better processes and quality to earn six lean and Six Sigma belts and five certificates in the privacy of their home or office.

A preview of the courses was introduced at the IISE membership booth during the Annual Conference & Expo 2019 in Orlando, Florida.

“This partnership will enable IISE to deliver the next generation of online training,” said IISE CEO Don Greene. “It will be completely modular and customizable. Six belts and five certificates will allow you to align training with your workforce needs.”

The collaboration brought IISE Director of Continuing Education Larry Aft and UL designers together to create the modules, which offer interactive visual displays of the same lean and Six Sigma certification instruction provided by IISE. It is open to members and nonmembers, with prices starting below $1,000 and discounts for IISE members and for corporate partners whose employees sign up for the courses.

The training offers companies a handy training tool for their employees and give professionals a convenient and affordable way to improve their skills and knowledge and enhance their careers.

“It’s professionally done, high-quality programs online that could free up companies from having to pay in-house instructors or outside consultants,” Aft said.

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**FIGURE 1**

**Six belts, five certificates**

A listing of the modules offered by the UL-IISE training package available to help earn specific lean and Six Sigma green and yellow belts or certificates.

<table>
<thead>
<tr>
<th>Module</th>
<th>Title</th>
<th>LSS GREEN AND YELLOW BELTS</th>
<th>ISE-UL CERTIFICATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Welcome</td>
<td>SSYB</td>
<td>Control Charts and Capability</td>
</tr>
<tr>
<td>2</td>
<td>What is Lean Six Sigma?</td>
<td>SSGB</td>
<td>Value Stream Mapping</td>
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<tr>
<td>3</td>
<td>DMAIIC Process</td>
<td>LYB</td>
<td>Waste</td>
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<td>4</td>
<td>Roles and Responsibilities</td>
<td>LGB</td>
<td>Lean Tools for Standard Workplace</td>
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<tr>
<td>5</td>
<td>Variation</td>
<td>LSSYB</td>
<td>Root Cause Analysis</td>
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<tr>
<td>6</td>
<td>Describing Data</td>
<td>LSSGB</td>
<td></td>
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<tr>
<td>7</td>
<td>Control Charts</td>
<td></td>
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<tr>
<td>8</td>
<td>Interpreting Control Charts</td>
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<td>9</td>
<td>Process Capability</td>
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<td>10</td>
<td>Design for Six Sigma</td>
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<td>11</td>
<td>Root Cause Analysis</td>
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<td>12</td>
<td>Implementation Strategy</td>
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<td>13</td>
<td>Lean Enterprise</td>
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<td>14</td>
<td>Voice of the Customer</td>
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<td>15</td>
<td>Process Maps</td>
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<tr>
<td>16</td>
<td>Value Stream Mapping</td>
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<td>17</td>
<td>Identifying Waste</td>
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<td>18</td>
<td>Standard Work</td>
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<td>19</td>
<td>Flow and Layout</td>
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<td>20</td>
<td>Kaizen Approach</td>
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<tr>
<td>21</td>
<td>Push and Pull</td>
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<tr>
<td>22</td>
<td>Lean Tools for Standard Workplace</td>
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</table>
The courses offer a total of six certifications that include separate modules each in the following disciplines and number recommended for each (see Figure 1):

- Lean Yellow Belt in five modules
- Six Sigma Yellow Belt in six modules
- Lean Six Sigma Yellow Belt in seven modules
- Lean Green Belt in 15 modules
- Six Sigma Green Belt in 13 modules
- Lean Six Sigma Green Belt in all 22 modules

Also offered are five certificate courses, each valid for three years, including:

- Control Charts and Capability Certificate in six modules
- Value Stream Mapping in four modules
- Waste in four modules
- Lean Tools for Standard Workplace in five modules
- Root Cause Analysis Certificate in three modules

The modular design allows trained employees to grow as their careers do. For example, line workers could start with a Waste Certificate, adding more certificates as they earn promotions on their way to earning yellow or green belts.

“We are excited to partner with IISE to offer this suite of first-class lean and Six Sigma training courses,” said Scott Barnard, managing director of UL PURE Learning. “These suites offer organizations continuing improvement programs that can energize employees and transform organizations from the bottom up.”

The courses offer the benefits of both convenience and top-quality content. The convenience comes in the ease and portability of online courses that attendees can take anywhere, at work or at home, even on a lunch break.

“By breaking it up into modules, you offer it to those who can’t sit through a three-day course,” Greene said in introducing the project during the State of the Institute session at the Annual Conference. “They may only need training in a few areas and they can get precisely what they need through a microburst of training.”

In addition to the convenience of web-based training, ISE and UL worked extensively to ensure that the quality of the modules was the same as instruction offered in other ISE courses.

“It has to come up to our standards,” Aft said. “Anything that goes out of here with our name has to meet our standards. The technology is a step up, and we were interested that the quality be there as well.”

The training can help ISEs in manufacturing, aerospace, healthcare, financial, supply chain/logistics/transportation, web development, semiconductor, IT, facility planning, warehouse management and other enterprises improve processes and boost quality.

Those who already have earned their lean and Six Sigma belts can pick and choose individual areas on which to brush up and refresh their knowledge.

“We tried to decide what specific skills could stand alone, such as an organization just wants to look at 5S or VSM (value stream mapping), to have modules that would tell them what's involved,” Aft said. “We created several modules for expertise on all the green tools without having to sit for a green belt certificate exam.”

Kevin Hicks (at left, above photo) and Marc Brody (at left, photo at right) of UL discuss the UL-IISE training modules during a presentation at the ISE Annual Conference & Expo May 21 in Orlando, Florida. A video preview of the training course was shown to attendees in the exhibit hall at the Rosen Single Creek Hotel during the conference.
Here is how registration works:

1. Visit www.iise.org/UL for more information on the courses offered, pricing and a link to the registration page.
2. Once on the UL-IISE landing page, click on the registration button, pick your course and provide the necessary information.
3. Attendees can log on to the module and take the course on their schedule at their convenience.
4. Once they complete a course, students seeking green or yellow belts will receive an email link to take an online exam. Once they have taken and passed the exam, they will receive a digital badge by email acknowledging the course completion.
5. Those completing a certificate course will receive a digital certificate once their status has been verified.

Each session is conducted in a user-friendly style with colorful graphics and images and straightforward instructive narration to walk attendees through each section. The modules are easy to follow and include numerous examples and instruction by virtual instructors who walk you through each lesson.

Attendees can listen to the narration or click on a link to read the full transcript. They can be paused and resumed as desired and finished later on their schedule. Included are short quizzes along the way to test your knowledge.

“It’s a more modernized presentation that appeals to a younger generation,” Aft said. “They have less time available in big blocks and are looking for smaller chunks instead of spending five days at a class listening to all the presentations, which can add up to some 20 odd hours. That’s a lot of time to dedicate. We thought it would be good to create smaller modules what would be logical divisions of the five-day class.”
UL history and background

UL, founded in 1894, is celebrating its 125th anniversary in 2019. Here’s a timeline of the company’s key milestones throughout its history:

• 1893: At the World’s Columbian Exposition (also known as the World’s Fair) held in Chicago, William Henry Merrill Jr., an MIT graduate, assumes his first post-college position at the Boston Board of Fire Underwriters. He proposes creating an electrical testing laboratory and the Chicago Underwriters Association and the Western Insurance Union provide funding for the Underwriters Electrical Bureau.

William Henry Merrill Jr. (center) poses with UL’s first employees. This three-person staff issues 75 reports to its customers on an annual budget of $3,000.

A view of the electricity building at the 1893 World Columbian Exposition in Chicago where MIT graduate William Henry Merrill Jr. first pitched the idea of an electrical testing laboratory to insurance underwriters.

• 1894: Merrill founds the Underwriters Electrical Bureau, later known as the Electrical Bureau of the National Board of Fire Underwriters. On March 24, 1894, it conducts its first test on non-combustible insulation.

• 1901: Underwriters Laboratories (UL) incorporates in the state of Illinois. Henry Clay Eddy is named president and Merrill is named manager of the organization.

• 1903: UL publishes its first Standard for Safety, titled “Tin Clad Fire Doors.” The doors were primarily used in public spaces such as warehouses, schools and hospitals.

• 1905: The organization moves to its newly-constructed headquarters on East Ohio Street in Chicago in a building widely considered a fireproof fortress “safeguarded with every known precaution.”

• 1906: UL inaugurates its label service to certify individual products meeting the standards tested by UL investigations carried out in the laboratory and on the assembly line.

• 1910: The Council of Underwriters Laboratories, UL’s first council, supervises the technical work of the Laboratories, establishing a uniform compilation of the organization’s increasingly sophisticated work.

• 1919: UL publishes its first Standards for electric ranges and automatic sprinklers.

• 1921: UL begins operating an airworthiness testing program and is the first national organization in the world to certify airplanes for use. UL’s success in this approach sets the stage leading up to the introduction and passage of the federal Air Commerce Act in 1926.

• 1928: UL publishes its first UL Standard for Radios and developing testing protocols for player pianos.

• 1930: Throughout the 1930s, UL certifies early model consumer electronics such as electric dishwashers, automatic washing machines, black-and-white television sets and vending machines.

• 1935: UL operates a fleet of mobile labs, cars outfitted with equipment, to allow for the testing of products in the field.

• 1942: During World War II, UL tests devices to protect against the sabotage of U.S. plants producing or storing materials important to the war program.

• 1946: UL begins using new, high-visibility tactics to deliver safety awareness campaigns directly to the public in step with the rise of consumerism. These include the production of films such as “Approved by the Underwriters” and “Danger Sleuths.”

• 1953: The hazards of imploding picture tubes lead to increased testing of televisions and the development of requirements for manufacturers to mitigate potential dangers.

• 1956: UL expands internationally, certifying European-made products destined for the U.S. market.

• 1963: First automotive seat belt is certified.
22 modules in UL-IISE Lean Six Sigma 4.0 training

Here are the modules offered in the online training courses offered by UL and IISE. Each Lean Six Sigma certification level includes recommended courses to be completed and the exam for each passed. For the five certificates offered, a set list of courses need only be completed.

- Welcome
- What is Lean Six Sigma
- DMAIC Process
- Roles and Responsibilities
- Variation
- Describing Data
- Control Charts
- Interpreting Control Charts
- Process Capability
- Design for Six Sigma
- Root Cause Analysis
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