

DATA CENTER UNIVERSITY™ COURSES GENERATE GOOD RETURNS FOR BANK OF AMERICA

Knowledge gained through certification program leads to more efficient data center

Matthew Lewis needed answers.

The data center he oversees at Bank of America was barely seven years old, yet it was already stressed. It was at maximum capacity for power and cooling, and there were airflow problems and overall efficiency issues.

“I needed to respond to questions about how many systems we could support or whether we could add more systems in the same room,” said Lewis, Assistant Vice President, Technology Manager, at Bank of America. A Google search landed him at American Power Conversion’s Web site. “APC has great white papers available,” Lewis said. “In one of them, I saw references to Data Center University.”

Filling a critical education gap

Data Center University™ (DCU) online education was launched by APC in 2006. DCU courses help IT professionals, engineers, and facilities managers develop successful solutions for the physical layer of their data centers. All courses, which are vendor-neutral and do not promote APC products, focus on critical technologies and best practices that are relevant to leading-edge data center design. Currently DCU courses are offered free of charge. Course descriptions and registration are available online at www.datacenteruniversity.com

The DCU program offers an Associate Certification, an international credential that recognizes foundational knowledge in data center infrastructure, including power, cooling, racks, cabling, fire protection, management, and physical security. IT professionals can earn certification by passing a 90-minute, 75-question exam.

“Data Center University addresses the great need for advanced education in the disciplines of planning network-critical physical infrastructure and designing data centers,” said Susan Hartman, Data Center University Program Manager.

Worldwide demand for training

A recent survey conducted by AFCOM’s Data Center Institute indicates that by the year 2015, the number of qualified senior-level data center professionals will have diminished by 45 percent. As the talent pool decreases and the demand for these professionals grows, certification offers the assurance that individuals have the knowledge, skills, and ability to successfully implement data center solutions.

According to the International Data Corporation (IDC), the IT education and training market in the United States will see a growth rate of up to 6 percent from 2005 to 2009.

Even higher growth rates are expected in the areas of training for infrastructure upgrades, network security, data management, and enterprise resource management (ERM) applications. Worldwide, the fastest growth will occur in the Asia/Pacific market, with China and India leading the boom. IT employment, a clear driver of IT training, will increase by 22.6 percent and 19.05 percent in India and China, respectively.

A valuable professional credential

Lewis recalled how when he first learned about DCU education, there were frequent cover stories concerning power and cooling in leading magazines such as *CIO* and *Information Week*. Clearly, he was not alone in facing these data center challenges. However, Lewis found that education resources were scarce. “I’m not aware of any credential similar to DCU’s Associate Certification,” he stated. “I don’t know how many people would have the qualifications represented by the body of knowledge available at DCU.” He said DCU certification was a valuable professional credential.

Lewis is one of more than 34,000 IT professionals who have enrolled in DCU courses since the program was introduced. These include technologists, engineers, facilities managers, students, designers, and general consultants from more than 100 countries worldwide. “For someone who needs to get a broad knowledge of the fundamentals of power and cooling, there are great resources at DCU,” Lewis said. “The curriculum covers topics that are fairly fascinating to me.”

Currently there are more than 45 DCU courses offered. Subjects include, among others, the Fundamentals of Power, Cooling, and Cabling; Raised Floor Implementation; Energy Efficiency; Going Green in the Data Center; Generator Fundamentals; and Blade Server Integration. Because DCU courses are available online and on-demand, enrollees can take them anytime, from anyplace, in an hour or less.

As of April 2007, 400 people had achieved DCU Associate Certification. About 46 percent of DCU Associates are in the United States, with the balance in areas of Asia and Europe.

Vendor-neutral curriculum

Lewis said that one of the first things he noticed about the DCU program was the fact that APC had partnered with a major training company, Thomson Prometric. “I think it’s fair to question whether there will be any bias, given that APC is not a training company,” Lewis noted. “Having gone through the certification curriculum at DCU, I don’t think there is any need for concern. DCU does a great job of explaining fundamental physics, and no one owns the physics.”

The DCU syllabus comprises a Certification Learning Path, 14 e-learning courses covering all of the exam domain areas. There is also a Knowledge Assessment Practice Exam that allows individuals to gauge their exam readiness.

All DCU courses are approved for continuing education credits by leading industry organizations, including IEEE, IET, HIMSS, IFMA, BISI, ISPE, and 19 state engineering boards in the United States.

Source of knowledge and credibility

According to Lewis, the primary application of the knowledge that he gained from completing DCU courses has been in representing the data center to management. “I performed an assessment of data center resources, which summarized relevant limitations, and identified solution options and opportunities,” Lewis said. “It would not have been possible for me to perform this assessment without the knowledge gained from DCU courses.”

Based on Lewis’s recommendations, Bank of America took the following steps to upgrade its data center:

Redeployment of air supply and removal. The data center was originally built out with generally diffused air supply distributed throughout the room without regard to rack aisles. According to Lewis, his team has redeployed air supply and return to a hot aisle/cold aisle configuration, with a significant improvement in efficiency.

Power metering. Lewis’s team has employed metering on power circuits in the data center to ensure that the load on each circuit stays below its rated maximum.

Envisioning future improvements

Armed with knowledge gained through DCU education, Lewis also made the following recommendations to management:

- Replace ceiling-mounted air conditioning units with in-row units
- Upgrade UPSs to address redundancy and generator compatibility issues
- Deploy resource monitoring and automated server shutdown technology
- Replace outdated cabinets

If these recommendations are fully implemented, the improved data center would provide 12 percent more rack space, 60 percent more UPS capacity, and adequate cooling, all in the same footprint, according to Lewis.

“Knowledge gained from DCU courses not only enabled me to perform a data center assessment but also gave me credibility when presenting it to management,” Lewis said. “You are not doing your job if you are not proactively identifying data center requirements. Better to learn of limitations from a resource like DCU than to learn of them from your pager.”

Lewis said he would recommend DCU courses to anyone who needs knowledge about data center design and resources, and DCU certification to all who want to add a solid credential to their name.

Details about the Data Center University Associate Certification, registration information, and exam FAQs are available online at www.datacenteruniversity.com