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New master's program students never set foot on Clemson campus

By [John Staed](#)

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CLEMSON UNIVERSITY — As any busy employee knows, there are hardly enough hours in the day to get things done.

Add family duties, social, faith and civic events, and, well, it can be a daily treadmill.

And for those who seek higher education beyond the bachelor's degree, it can be a black hole of time and travel to campus.

But what if the classes were portable, built into hourlong or 90-minute daily segments, and the technology available today was used to allow students to simply download a class, kind of like downloading music off iTunes?

Clemson University educators came up with that outline when asked by industry leaders in supply chain and logistics to design something for their employees.

The master's of engineering program in capital projects supply chain and logistics is serving 42 students enrolled from around the country and from overseas. All are professionals in their industry, but all are carving out the hour or more a day to earn a master's degree in 40 months, said Bill Ferrell, professor of industrial engineering and an associate dean of the Clemson graduate school.

"This program was born out of the Center of Economic Excellence," Ferrell said, noting that the state provided money for center to focus on the topics of supply chain and logistics. International contractor Fluor Corp. provided matching money.

"Fluor says, 'We think there's opportunity out there for education for employees in the capital projects (construction) business that are full-time employees and live all over the world and can't just quit and come to Clemson,'" Ferrell said. "That was their challenge."

After talking to businesses such as Fluor, Exxon Mobil and Chevron, they had a plan.

"At the end of the day, we literally took our Master of Science degree here at Clemson and put together a master of engineering program that parallels it exactly," Ferrell said.

Ferrell came up with the idea of taking the number of hours one is required to take in a graduate class and translated that to a single class per semester.

"It turns out you need about 60 to 90 minutes a day, seven days a week," he said. "My sales pitch ... is, build in 60 to 90 minutes you would normally spend unproductively for seven days. Give it to me for three years. Don't make this a special part of your life, make it right there with family, recreation, travel, and then we'll give you a return on it you wouldn't believe."

The modules are broken into lectures, reading a paper, writing a report and homework, Ferrell said. But they are consistently within the same time frame. Special software allows the modules to be e-mailed to students or downloaded from a site at Clemson.

One student uses an iPod to download lectures, then takes them on business trips. Others use laptops and learn aboard flights, Ferrell said.

"I can't tell you the number of folks who have told me about using this for travel," he said. "It seems to be really appealing to people who are working for a living."

Bryan Cassidy, an expeditor at S&B Engineers and Constructors in Houston, said he has finished one semester and has found he has been able to make the modules work.

"What I personally do is set aside one to two hours per night on Monday through Thursday ... (and) a few hours each Friday to do school work," he said in an e-mail.

He tries to finish up on Friday to have Saturdays off from schoolwork.

"I think the fact the program is all online has far more benefits for people trying to juggle work and class," Cassidy said. "It helps tremendously that we don't have to fight Houston traffic to actually attend a class on certain nights of the week. The main disadvantage of an online setting is that you don't have the same interaction with your teacher and other students."

Ab Uppal, project controls manager for Hatch, an engineering and construction firm, enrolled after researching American universities and was impressed by Clemson, he said by e-mail. He is based in Calgary, Canada.

He said he follows a routine Monday through Friday, studies about four hours on Saturday and uses Sundays as makeup days only.

"I find that watching lectures at work (lunch time) does not work for me at all," Uppal said. "There is way too much going on, and I tend to lose focus. I would rather spend a solid two hours in the evening allowing me to get a better grasp on the topic at hand."

Beyond the gee-whiz of the technology, Ferrell said the degree has allowed collaboration between departments at Clemson, including management, civil engineering, and business, to develop the degree.

It also has brought together online students who represent different segments of the business, from suppliers to contractors, and allow them to talk about issues "in a non-threatening way," Ferrell said.

A supplier can explain to a contractor the need for advance information about a job that might result in an order change, and vice versa, he said.

"It's a very important element here that I probably underestimated when we first started," Ferrell said. "If you look at the discussion board, you realize there is extraordinary synergy going on."

Despite the marvels of online learning, there is something to be said for bricks and mortar, said Cassidy, who's never visited South Carolina.

"I've heard great things about the school, so when I graduate ... it would be nice to attend graduation so I can see the place for the first time."