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New online Master's degree gives CU Boulder electrical engineering students flexibility [1]

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The next generation of electrical engineers are now studying for their master's degrees online, thanks to a partnership between University Information Services (UIS) and CU Boulder.

University Information Services (UIS) partnered with University of Colorado Boulder to offer students the opportunity to earn a fully accredited Masters of Science in Electrical Engineering (MS-EE) degree online. This new degree, hosted on the Coursera platform, is intended to prepare students for senior engineering roles.

The highly customizable curriculum, once fully developed, will allow students to choose from over 100, 8-week courses ranging from 0.6 to 1.2 credit hours. Centered on subjects such as embedded systems, power electronics and photonics, these disciplines represent the building blocks of cell phones, computers, electric and autonomous vehicles, renewable energy grids, LED lighting, advanced medical devices and much more.

Launched in October 2019, the MS-EE degree resulted from partnership and collaboration between CU campuses and UIS on online education efforts. Campuses are generally responsible for the content, course design, learner experience, marketing and policies, while UIS assists with business process consultation, configuration management, data structures, system integrations and development.

"The MS-EE team has been dynamic, enthusiastic and collaborative. Even with many moving parts, several unknowns and team players from across campus being added along the way, the tempo and drive of this group ensured that we met our goals within established timeframes to achieve success," said CU Boulder registrar Kristi Wold-McCormick.

What makes this degree unique?

- **Try before you buy:** No tuition is charged for students who enroll in the non-credit version of the courses to test their abilities and interest in the subject. Students can pay to upgrade from non-credit to credit at any time.
- **Performance-based admissions:** No application is required. Admission is purely performance-based. Students must complete a series of for-credit courses with a cumulative GPA of 3.0 or better (not less than 2.0 in any course) to qualify to be admitted into the degree program. A bachelor's degree is not required.
- **Tuition is assessed on a pay-as-you-go, per-course basis:** Students can pay as they go, with the flexibility to pay for and earn credits on their schedule.
- **Smaller bite-size course topics:** Each course lasts eight weeks and ranges from .6 to 1.2 credit hours to allow students to work at their own pace. Each specialization requires

3-4 courses and to attain the degree certificate students must complete those designated courses.
- **Flexible schedule:** This program is designed to be customizable and flexible to meet the needs of working professionals.
- **In-demand topic areas:** The curriculum is influenced by CU Boulder's close relationships with industry leaders to include in-demand topics, such as Embedded Systems and Power Electronics.

"The MS-EE is an incredibly complex program. I've never been part of such an intricate collaboration at CU, where people from so many parts of the university have come together to make change happen. When I travel to conferences and present on the MS-EE, our peer institutions cannot believe the momentum and team that we've built. It's a huge accomplishment for all of us. It's been so rewarding to be a part of such an amazing effort," said Quentin McAndrew, CU Boulder Provost's Office of Academic Innovation.

Future phases

Multiple phases are underway to complete this program.

Future phases will include:

- Granting certificates upon completion of a series of specializations. This allows students to document that they have completed mastery in an area before finishing their degree.
- More students will be able to register for the online MS-EE degree. During its pilot rollout, registration was limited to ensure processes ran smoothly.
- More process automation to alleviate administrative burden as enrollment increases.
- Continual user experience improvements.
- Degree conferral.

"It's exciting to work on this project and be part of a team that's delivering education worldwide in innovative ways," Art Figel, the UIS director of Student IT Services said. "The success has come from the collaboration between talented folks from campus academic and administrative departments, OIT and across multiple teams at UIS. And there is really interesting work ahead of us with the variety of leading-edge programs that are launching from across the campuses, departments and colleges."

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