Thoroughly modern study
Mid-career engineers connect with master's via UW online program

By Becca Mader

As an engineer with 30 years at Harley-Davidson Motor Co., Bruce Dennert has experienced the evolution of the engineering field and has seen the need to adapt.

To stay “modern” takes more than just the technical skills that Dennert, 56, gained through a master’s in engineering degree in 1982. He determined that a traditional master’s degree in business administration wasn’t going to help him move his career forward.

He finally found the right fit in course content was available online through the Master of Engineering Professional Practice degree at the University of Wisconsin-Madison.

After two years of study — only two weeks of which were spent on campus — Dennert is set to graduate in May along with 30 other classmates. This is the program’s second graduating class and UW-Madison’s first Web-based graduate degree program.

The program is designed to address the needs and schedules of working professionals, many of whom frequently travel and cannot take time off from intense projects to spend several hours in a classroom each week.

“We wanted content that was for working professionals and that would maximize the best educa-
n a special role for someone at a distance,” said program director Wayne Pferdehirt.

With the two-year program, which was launched in 1996, the classroom is portable and class time is flexible. Apart from two one-week summer sessions on campus, all classes are available online. The first class graduated in May 2001.

The program is most advantageous because students don’t have to put their careers and lives on hold,” said Karen Al-Ashkar, a senior adviser to students in the program.

They only need a separate phone and Internet connection to access a password-protected web site for each class. They use a toll-free number for teleconferences.

**WEEKLY TELECONFERENCES**

Students log on for weekly teleconferences for each class and students and teachers keep in touch via e-mail, phone calls and online discussions.

Classes are offered on two days, one during the morning and one in the evening. Teleconferences are archived, in case a student misses a discussion. Students can connect from anywhere and most do their work during evenings and weekends.

The program was developed in 1994 for

were concerned they wouldn’t have as much social interaction. Bucheger, a director of emission compliance at Mercury Marine in Fond du Lac, had previously been enrolled in two other master’s programs at Michigan Tech in Houghton, Mich., and Minnesota State University-Mankato.

The constant dialogue, small class sizes and faculty support helped her get through the program, Bucheger said.

CLOSE-KNIT COHORT GROUP

Students participate in “cohort” learning, where they all move through the same fixed set of 10 courses together. Each year a maximum of 30 students are allowed to enroll, allowing for a close-knit group and a high degree of individual attention, Pferdehirt said.

The work is intense — students need to balance work and an average of about 20 hours per week of studying — and the cohort format encourages teamwork because of the shared experience and constant communication. There are also a number of group projects students work on. As a result, the program has had a near 100 percent graduation rate.

Faculty will call on a student if he or she is silent during a discussion, and if a student has a problem, he or she can e-mail the professor and receive a response within 24 hours.

After Bucheger fell behind one semester, one of her professors contacted Al-Ashkar, who in turn talked to Bucheger.

“They become a tight learning community,” said Pferdehirt about the students, who must have a minimum of four years’ professional experience before enrolling. The average is 10 to 15 years. “The interaction exceeds anything they could get on campus.”

Classes cover project management, statistics, business operations and communication skills, giving an “overall approach to the tools engineers in the 21st century need,” Denmer said. The program integrates problems into class assignments that students face at their companies. For example, in a project management course, students bring in a project they are working on and apply methods and tools they learn in class, Pferdehirt said.

The practical application helps students become more engaged in learning, said Tom Smith, who developed the idea for the program and who teaches “Network Skills for Remote Learners,” the program’s introductory course.

“We can use their work experiences to form their education,” Smith said. “There is a lot of motivation involved for students because the problems are authentic.”

Alumni have seen the practical application of skills they have learned and said one of the main benefits has been self-confidence and the friendships formed with other students.

“It’s given me an appreciation for how we, as engineers, can work collaboratively and at a distance,” Denmer said. “And I have the awareness of the tools and technology allowing us to do that.”