

Earn Your Masters Online

By Rachael Zimmermann



For engineering professionals, the prospect of continuing their education can be frustrating. It is difficult to coordinate course schedules and projects around work, and often it's not even possible to pursue the desired degree because relocation to a different city is impossible. The University of Wisconsin-Madison has developed the Master of Engineering in Professional Practice, or MEPP, a two year online degree program designed for engineering professionals who wish to continue to expand their professional knowledge and skills. The MEPP program is meant to be an alternative to an MBA for experienced, mid-career engineers.

The MEPP program appeals to engineering professionals because it provides the technical skills that an MBA does not. An MSME, on the other hand, is often too technically in-depth to be useful to an engineering professional, while an MBA is not technical enough. The MEPP brings together elements of both fields to create a useful program that provides tools and knowledge that engineers can apply on the job immediately. The material covered in the program sharpens project management skills, technical communication skills, and problem solving skills related to engineering.

Unique Structure

The format of the MEPP program departs from typical online courses or programs, which simply place the student in an online classroom, or have the student read lengthy documents and compose written responses to be reviewed by a professor. The MEPP program is conducted completely online using WebCT and teleconferencing, a system many alumni say made them feel connected and involved with the course material. Once a week students log on to class by connecting via a toll free phone number for audio, and by going to a web conference site powered by Placeware. This system allows students to speak directly to each other and the instructor, and enables them to feel connected and get quick answers to questions and help with problems.

The cohort format is another aspect of the program that fosters unity and support among students. Space is reserved for 30 students in each incoming class. This group of students moves through the course of the program together, as a fixed cohort. The result is a supportive learning atmosphere, and friendships and alliances that often extend beyond the duration of the program.

Learning on the Job

The courses in the MEPP program were developed with input from engineering employers with employee competency in mind. Courses encompass a range of topics including Engineering Economic Analysis and Management, Communicating Technical Information, International Engineering Strategies and Operations, and Engineering Applications of Statistics.

The program's curriculum was designed to be directly applicable to the workplace, and the program produces results. In the first graduating class, 72% of alumni said they had received a promotion or pay raise within 6 months of graduation.

The MEPP program aims to make skills students learn through the participation directly applicable to their jobs. This marriage of education and work helps to solidify concepts. One alumnus summarizes the many advantages of the program, saying "I feel as though I am more organized, better able to juggle multiple projects and in general better able to use current technology and software. My presentation skills are improved and presentation preparations are faster and are of better quality. I definitely have a wider view of engineering careers thanks to the experiences shared by members of my cohort. I have tried to apply as much as I can to work."

Flexibility

The program, which began in 1999 and conferred degrees on its third graduating class this past spring, is unique because it not only allows professionals to earn a degree without disrupting work, but also provides students with the opportunity to meet and work with other professionals from around the country. Since the program is conducted primarily via teleconference, it is possible to actively take part without being physically present, thus opening it up to engineers from across the country, thereby creating a larger group to network with and learn from. Participants can even attend class if work requires them to be elsewhere. The weekly teleconference meetings are held on a toll-free line, so whether students are sitting at home or in a hotel room halfway around the world, they can actively participate in discussions.

Versatility

An MEPP can be beneficial for a variety of different fields across the engineering discipline. Alumni job titles include Environmental Engineer, Director of Engineering, Director of Power Systems, Design Engineer, Development Engineer, and Staff Engineer. Alumni also come from a range of different companies including Mercury Marine, Delta-Power Co., Motorola, Kraft/Oscar Mayer, Caterpillar Fuel Systems, John Deere Co., GE Medical Systems, and Harley Davidson. Because of its blend of statistical, technical, and professional skills, the program attracts a wide variety of professionals from different engineering backgrounds.

Several program alumni identified the initial motivation behind pursuing a Master's degree as realizing personal goal or achievement, but they found that the applications in their jobs were tremendous. Alumni noted that they felt more confident in leading a team, more confident in their technical communication skills, and they felt they received more support and respect from customers and colleagues.

Support and Education

One would expect that a 2-year program conducted completely online would be rife with technical complications and breakdowns in communication. Alumni say there was surprisingly little of this. The first course in the program is a Network skills class held during the summer in Madison, and its purpose is to give students a chance to meet each other face to face, and to help prepare students for how the program will be conducted. One alumni recalls, "The MEPP staff did a very nice job of making sure you were comfortable with the tools needed for the distance format. I don't recall any 'breakdowns', so I guess that means they were handled quite effectively." Another alumni says, "The MEPP staff works very hard to prepare everyone for long distance learning and they do a great job. The support throughout the program is excellent, which keeps everyone motivated. It takes two to effectively communicate so if problems were posted and/or communicated, they were dealt with swiftly. As a student I was never left hanging when I needed help."

Designing the Program

A survey of engineering employers taken prior to designing the curriculum revealed that the areas in which improvement or further education were most desired were management and leadership skills, technical skills, company efficiency and profitability. The opportunity to pursue a degree without being away from the job also ranked high. Alumni say that the benefits of the program have been recognized by their employers. One alumnus states, "The MEPP degree opened the door for advancement. Without the degree I doubt if I would have been considered for promotion beyond the supervisory level. Since getting the degree I have been promoted to Engineering Manager, and the possibility of another promotion in the near future is very strong." One alumnus who worked for a smaller company with limited opportunities for advancement said that while his employer recognized the value of the degree, he himself focused on its benefits, "on both potential future opportunities not just within my own company, and as much for my own personal edification."

One graduate of the program said that while her employer recognized the skills that she had gained, the key was applying her education to the job. She states that, "If the knowledge is not applied in the work place the employer loses. I have used almost every aspect of this education in my job."

THE GRADUATING CLASS OF 2004 POSES WITH BUCKY BADGER




Technical Difficulties

Criticisms alumni had of the program were limited to technical aspects. One graduate says that he experienced frustration about the internet connection. "I tried to use a dial-up connection, which works, but the lag time was frustrating. Fortunately, my employer utilizes a T-1 connection and I spent most of my class time logging in from my work computer. I must add that the MEPP staff was always very accommodating, and always made sure that each student was getting all necessary information through downloads in advance, or by issuing a CD ROM with data as required. The quality of the supporting network and materials for the program is simply outstanding."

Another graduate cited the main challenge being the time management aspect. He says that, "To succeed in the program, time management skills became the name of the game." Another says that, "It was truly a challenging program, not only for its content but in learning to juggle family life around it. The coordinating staff is very attuned to suggestions made by each cohort as it progressed through the program."

With Honors

In its short history, the MEPP program has been recognized by the University Continuing Education Association (UCEA), the United States Distance Learning Association (USDLA), and the American Distance Education Consortium (ADEC) as an innovator in online education. In 2002 the program was awarded both the Outstanding Program Award-Credit Category (in which they were considered alongside campus- and distance-delivered programs of all disciplines across North America) and the Distance Learning Community of Practice Program of Excellence Award by the UCEA. 

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