

FINANCIAL TIMES

MONDAY JULY 26 2010

Business Education

The business-savvy engineer

A Mem is becoming the interdisciplinary degree of choice for those wanting a career that spans both operations and technology, writes **Rebecca Knight**

Drew Wenzel, a graduate in engineering sciences, knew that in order to pursue the kind of professional career he wanted, he needed not only a solid engineering education, but also a firm understanding of the business world.

For that, he needed a post-graduate degree, not an MBA, or an engineering degree, but a Masters in Engineering Management. The Mem, a cross between an advanced engineering programme and a general management course, for those who want careers at the intersection of technology and business.

"The Mem degree gives you the ability to speak both languages," says Mr Wenzel, who recently graduated from Dartmouth's Thayer School of Engineering and has a job at Google's headquarters working on its green building designs.

Mr Wenzel is not the only engineering graduate who sees the value of this kind of interdisciplinary degree. While Mem pro-

grammes are not particularly widespread – the most notable include combined programmes offered at the business and engineering schools of Cornell, Dartmouth, Duke, Northwestern and Stanford – they are gaining popularity among students and employers.

Joseph Helble, dean of the Thayer School, says that Mem programmes are "for engineering grads who know they don't want to spend their entire careers in design or in a lab. They want to do broader, systems-based engineering, by identifying promising new product lines. They want to create a vision for the technology in the broadest business sense."

Applications to Northwestern's Mem programme are up by about 40 per cent on last year. And applications to Dartmouth's programme have doubled in the past five years; today, the school receives about 300 applications for 50 spots. Typically these programmes target fresh graduates with little professional experience, whereas most MBA programmes require three or four years in the working world.

The degrees are gaining credibility with companies too. In an age of intense global competitive pressure, A Mem is becoming the interdisciplinary degree of choice for those wanting a career that spans both operations and technology, writes Rebecca Knight more companies are striving to maintain an edge over rivals by continuous inno-

vation and effective management of their technology base. This requires a manager who grasps both operations and technology, says Brad Fox, executive director of professional masters programmes at Duke's Pratt School of Engineering.

"Companies . . . want people with technical depth, but [also] the business breadth that enables them to be successful at their jobs in a corporate environment. We're really trying to prepare business-savvy engineers," he says.

The curricula for Mem programmes vary, but most combine advanced engineering courses on integration, manufacturing and supply chain management, with general business classes in subjects such as management, finance and account-

'A lot of engineering graduates hadn't the faintest idea of how business functions and how organisations work'

ing. The result is a well-rounded engineering graduate who can evaluate the commercial potential of innovations in science and technology and also understands financial statements and budgets, according to Mark Turnquist, the director of Cor-

nell's Mem programme, which graduates 40 students a year.

"Traditionally, engineering grads have been isolated in their technical roles," he says. "A lot of them hadn't the faintest idea of how business functions and how organisations work. These kinds of programmes break down those barriers by exposing students to finance so that they understand how the money flows through an organisation."

Many programmes encourage students to take electives, such as negotiations and competitive strategy, offered at their partner business school so they get better at the "softer skills" of management. Entrepreneurship electives are also popular. These show graduates how to turn research discoveries into marketable applied technologies. They also promote connections between Mem and MBA students to collaborate on an engineering design, or even develop a partnership.

Last year, in one of the worst years in recent history for MBA hiring, Mem recruiting remained strong. Dartmouth's Mem programme had an 89 per cent job placement rate of candidates within six months of graduation. And Duke, with 200 students in its Mem programme, had a 90 per cent job placement rate within three months of graduation. Recruiters of Mem graduates include, energy companies, financial services companies and management consulting firms.