Orfalea College of Business alumni, faculty and students set their sights on business’ next frontier.

SPREADSHEET STORYTELLER
Simon Arkell (MBA, 1994) founded Predixion Software to disrupt the predictive analytics industry.
Businesses today have access to more data and information than during any time in history, giving companies with the know-how to interpret and use data a clear and decisive edge in an increasingly competitive global marketplace. From predicting stock trends to guiding an app’s user interface, vast amounts of quantitative and qualitative information drives businesses of all sizes and sectors.

So it’s no surprise that the emerging discipline of business analytics — the expertise for gathering, mining and analyzing data to direct business decisions — is quickly becoming a much desired and in-demand career choice. More and more companies find themselves drowning in data with neither the tools nor the talent to capitalize on it.

The Bureau of Labor Statistics expects the data analyst job category to grow by 45 percent, from 156,000 in 2008 to 285,000 by 2018, making it one of the fastest-growing career fields. In addition, a study by the McKinsey Global Institute warns of significant shortages of workers who will be able to analyze data adequately.

**A Growing Industry Demand**

The need for business professionals with data analytic skills will continue to grow for the foreseeable future, says Simon Arkell, who earned his MBA at Cal Poly in 1994.

And he should know. Arkell is co-founder and CEO of Predixion Software, an Orange County-based developer of cloud-based predictive analytic tools being used by industries from health care to manufacturing to predict risk and develop data-driven solutions.

“Every single industry is being disrupted by big data, and analytics is at the center point of it all,” says Arkell. “Our most valuable employee today is a data scientist.”

As the trend really took off after 2000, Arkell saw a huge opportunity for businesses to capitalize in the data analytics space — something he’d like to see Orfalea College of Business students do as well. Already, Arkell’s Predixion software is being used as a business analytic training tool in several dozen universities, as educators recognize the growing need for skill development and expertise in this emerging professional area. Cal Poly’s Orfalea College of Business could be next on that list.

**Preparing for a New Profession**

The critical and emerging demand for graduates strong in business analytics was not lost on the leadership at Cal Poly’s Orfalea College of Business. In the last several years, the college began hiring faculty from disciplines such as information technology, economics, finance and marketing, complementing an existing cadre of professors with data analytics expertise. These faculty became part of a core, multidisciplinary team tasked with building a new Business Analytics Program at the college.

Several of these faculty members, like marketing Associate Professor Brennan Davis, were also able to bring real-world experience to the table, having worked on data mining and analytic projects for high-profile companies like Nissan. Like others on the core team, Davis had seen firsthand the growing need for data analytic skills at all levels of business organizations.

“The world has changed,” says Davis. “Knowing simply how businesses run is no longer enough. We now need to use data to inform business strategy and decisions.”

Planning for new undergraduate business analytics classes, a certificate program and a master’s program is already well underway at the Orfalea College of Business, with the goal of preparing career-ready graduates who can visualize, interpret and analyze data, as well as straddle both the business and technical aspects of data analytics. With this unique skill set, graduates will be ready to immediately function as strategic liaisons within a variety of industries and drive business strategy.

“We believe that it’s the economic and business intuition combined with data analytics that is highly desirable and vitally important,” said Associate Dean of Graduate Programs Sanjiv Jaggia.
He feels the program’s hands-on approach to analyzing and leveraging data in the context of multiple sectors will differentiate Cal Poly’s program from other universities’.

With momentum building, the college piloted its first undergraduate business analytics course during winter quarter 2014. Taught by Leida Chen, associate professor of information systems and former senior program manager at Microsoft, the course attracted students from a variety of disciplines and covered the complete cycle of business analytics — from data warehousing to extraction to data prepping and mining. Students then learned how to apply mined data to business strategies to assess past trends and predict new ones.

The new course was a hit with students. “There was lots of interest in this business analytics course because students understand that this is where the jobs are,” said Chen.

A comprehensive Master of Science degree in business analytics is on track to start in fall 2016. As planned, the program will be a one-year, interdisciplinary business degree encompassing economics, finance, accounting, marketing and information systems. The emphasis will be on serving the business side of data through improved visualization and storytelling, teaching skills that will help build the bridge between the data science and business management sides of a company.

“CAL POLY’S NEW M.S. PROGRAM IS UNIQUELY POSITIONED TO PROVIDE A LOCAL TALENT BASE WITH THE SKILLS TO HIT THE GROUND RUNNING.”

— Joshua Knox, Engineering Program Manager, Google Analytics

Leading the way is the college’s first Business Analytics Certificate Program, a five-course interdisciplinary degree aimed at business leaders who use data to analyze and solve fundamental business problems. The certificate program plans to launch this summer.

Silicon Valley Weighs In

From the start, the college’s business analytics program has been driven by strong input from key industry leaders. In addition to an extensive research study on the emerging field to help guide curriculum and course development, the Orfalea College of Business has also assembled a Business Analytics Advisory Board of experts from Silicon Valley’s best. Companies like Google, Oracle, Cisco, Walmart, Nest Labs and Symantac, among others, are helping shape curriculum and define the skill sets needed from new college graduates in the field.

While the initial data analytics courses being offered already use cutting-edge industry tools and systems, such as Oracle products, R programming language, SAS Enterprise Miner and Linguistic Inquiry and Word Count (LIWC), plans for the future include enlisting industry partners to provide real-world problems and data sets, as well as experiential learning opportunities on and off-campus.

Already this past year, students in Davis’ undergraduate Marketing Analytics class used actual data sets from on-campus business units and local-area companies in the classroom. This allowed students to apply their newly acquired data skills immediately to real-world business situations.

“Cal Poly will be a great environment for this new program, as the school really reinforces Learn by Doing,” says Arkell. It’s an approach he believes will be invaluable as the business analytics program takes off. With students quickly filling every course Cal Poly offers on the subject, it looks like the program is well on its way.