Matt McGrath has noticed a lot of trends in his 14 years with Deloitte Tax—including the increasing need for speed.

McGrath ’01 ACCY, ’02 MS, a tax senior manager, Deloitte Tax LLP, and university relations deputy for Deloitte’s relationship with the University of Illinois, says in his early days with Deloitte Tax, he would meet with a client, ask questions, research the questions, prepare a memorandum, and sit back down with the client to deliver that memorandum.

Today, there is still that same focus on a thorough, collaborative process, but analysis and decision making must be done much more quickly.

“Big data and analytics are going to be able to help with that,” says McGrath.

A SEA CHANGE IN AUDITING

Deloitte Foundation, a longtime supporter of the University of Illinois, together with Deloitte’s retired and current partners, principals, managing directors, and employees, have gifted $5 million to the College of Business to create the University of Illinois-Deloitte Foundation Center for Business Analytics. The gift will facilitate the creation of leading-edge business analytics curricula to provide students with the data knowledge, skills, and abilities they need to become the business leaders of tomorrow.

“We’re modernizing accounting curricula to address the needs of students as they enter the workforce over the next decade,” says Jon Davis, R.C. Evans Endowed Chair in Business and department head of accountancy. “Analytics is happening really fast. The pace with which it’s changing is pretty stunning. There are massive investments being made right now in public accounting on machine learning and AI (artificial intelligence).

“What’s happening in auditing is a sea change,” Davis says. “Analytics, big data, fundamentally changes the game in terms of how an audit is done.”

SMATER AUDITING

Sara Klein ’96 ACCY, agrees. “In audits, we often take a population of transactions and subject it to statistical sampling,” says Klein, audit partner, Deloitte & Touche LLP, and lead university partner for Deloitte’s relationship with Illinois. “Sampling is often random, and you draw a conclusion on the full population based on the results of the sample.”

“Now, we have the ability to use an analytical tool to analyze 100 percent of a population and look for outliers. And then we might separate the population into two parts.”

For the portion of the population that appears normal, you might do a lower level of testing or sampling testing, she says. For the portion that looks abnormal, you might do more extensive sample testing or 100 percent testing.

“We call this ‘smarter auditing’ because we analyze the population using data analytic tools before we commence our audit testing. The results of the data analysis will help drive the planned audit procedures.”

Erica Nelson, another audit partner, Deloitte & Touche LLP, says the organization uses analytics in many areas of the audit, with a particular focus on implementing more thoughtful audit risk assessment.
procedures and bringing data to life through visualization to gain insight.

“That way we can continue to focus audit efforts in the areas that matter most,” says Nelson, who leads operations for Deloitte’s Audit Analytics strategy. “We can enhance audit quality and develop insight by using analytics to better tailor further audit procedures.”

**“WE’RE IN A DATA EXPLOSION”**

Robert Brunner, who has a joint faculty appointment in the School of Information Sciences (iSchool) and in the Department of Accounting in the College of Business, was named director of the Center for Business Analytics. Davis describes Brunner as a “hardcore analytics guy.”

“All students at the university should be getting some exposure to analytics, because we’re in a data explosion,” Brunner says. “Any job you’re going to take will likely be influenced by data at some level, and if you can do something with data, you’re going to be better prepared for the future.

“You can’t make strategic decisions if you don’t know how to think statistically about data. Most business students are familiar with financial data and budget data. But they probably aren’t aware of image data and what you can do with audio and video and what you can do with unstructured text data.”

**NATIONAL IMPACT, ILLINOIS BENEFITS**

The creation of the Center for Business Analytics, which will be cross-disciplinary, will not only help ready Illinois students for the future, it will have reverberations nationwide.

“The Center will allow Illinois to create, disseminate, and maintain model curricula for faculty that can be made available to other colleges and institutions of higher education,” says Davis. “At the Center, faculty will receive specialized training that will be integrated into existing curricula and that may be offered online. Students will benefit because they can participate in national or global case competitions, become involved in organizations that focus on analytics, and in the future be eligible for scholarships and degrees in data analytics.”

While the curricula will be developed for use in universities across the nation, it will bring distinct benefits to the University of Illinois, Brunner says.

“The Center will pioneer approaches for introducing analytics into the business curriculum and show other universities how they can do it and provide resources for them so they can start tackling the challenges as well,” he says. “And that can obviously benefit the University of Illinois.

“We will take a leadership role at the national and perhaps even global level in business analytics education. And that’s huge in terms of rankings and in attracting the best students and best faculty. We have a huge benefit in that if the Center is able to achieve what we hope it can achieve, not only will we be sharing the materials and the case studies that we develop, but we’ll be talking around the country with people who are also innovative, and we’ll be able to more easily learn what’s working in other places and improve our curriculum and improve the Center’s mission as well.

“Academically, we train more and more students and they go into industries that will strengthen our ties with businesses.”

**CENTER BORN OF NEED**

Mike Fucci, chairman of the board of Deloitte LLP and Deloitte Foundation chairman, sees a natural fit in the support Deloitte personnel and the Foundation is providing Illinois.

“Our organizations share a commitment to developing faculty, cultivating talent, and accelerating education to meet the pace of business,” he says.

Ron Sonenthal, ’83 ACCY, chief financial officer of Deloitte Tax LLP and Deloitte’s university partner for Illinois advisory matters, notes that:

“Students with an education in STEM disciplines are widely needed in business to help fuel economic growth, create competitive advantage, and drive innovation. Deloitte recognizes the importance of data analytics as a science-led, issue-driven solution to help address these business needs.”

Nelson sees the ability to apply and interpret statistical methods and analytics to turn data into useful insights and using data visualizations to present data in a meaningful way as key skills for current students to acquire. Those will be table-stakes for future business graduates, she says. “Developing those critical skills will help pave the way to a successful career start for tomorrow’s graduates.”

“Ours is a skill set that is critical and uses business analytics as the next study path for students.”

“I think certainly in the audit profession, we are going to see our clients starting to use analytics as well,” she says. “In the audit profession, we use analytics not just to solve problems, but as a basic functional tool.”

**PREPARING STUDENTS FOR THE FUTURE**

Brunner notes that while business analytics itself is not new, the way companies can leverage it now is quite new.

“The world is dramatically changing, and the role of the university is to prepare students for that future,” he says. “And in some sense it could be a scary thing, right? We’re not even sure what we need to know. But I think with the vision of [Dean] Jeff Brown and Jon Davis, this Center is going to be in an exciting position to really start staking out this future, determining what the opportunities will be and how we will be able to train these students to take advantage of these opportunities. This is potentially a ground-breaking, dramatic shift in how we do things and in what Illinois will be able to do.

“This is a huge opportunity for us to take a leadership position and really push the envelope. If we’re successful, our students will come out and be revolutionary. We’ll be able to teach the Illinois Way more broadly. And that will obviously be impacted.”

And so the “need for speed,” mentioned by McGrath, is being met by business analytics, and the University of Illinois-Deloitte Foundation Center for Business Analytics will help play a critical role in meeting that need.

“Data analytics is going to be a game-changer for a lot of companies,” McGrath says. “It will help them be more forward-looking and predictive in their plans for the global and economic environments that we and our clients operate in today. It can allow companies to make decisions faster and to better compete in the global economy.”

Tom Hanlon

**BUILDING ANALYTICS INTO THE CORE CURRICULUM**

As academic director of undergraduate programs, Brooke Elliott, Ernst & Young Distinguished Professor in Accounting, oversaw the mission to the existing curriculum.

“We [Elliott and the curriculum committee] talked to students, employers, and alumni,” she says, “and asked them what skills and competencies do you wish your students had and what do you think they’re going to need five years from now. Overwhelmingly the answer to those questions had something to do with analytics.”

That added fuel to the fire that was already beginning to burn regarding the need for an analytics curriculum.

“There are several cases in the past,” Elliott says. “Some offer master’s programs in business analytics or offer a track in analytics. Not many schools, though, actually know that I can think of off the top of my head, have a meaningful exposure to business analytics at the core level.”

Elliott sees bringing business analytics into the core as a necessary change to remain competitive. “I would like to see it put us way ahead of the game, but I don’t think that’s true. If we don’t do it, we’re going to be behind.”

The new University of Illinois-Deloitte Foundation Center for Business Analytics shows that Illinois is clearly committed to analytics, she adds.

“We believe it’s important to recognize the demand from employers and from students, and we are going to be in this space in a real way,” she says. “That Deloitte Foundation and Deloitte Illinois alumni gifted $5 million is a clear signal of commitment. It allows us to have a Center where we can generate resources—not just dollars but in terms of content.”

Elliott is excited about the interdisciplinary aspect of the Center.

“It will be a home for people across the different departments who may be in different disciplines, but we have a common goal to deliver a great series of core foundational business analytics courses to our students,” she says. “I think a lot of times we tend to stay siloed in our department, which is a reflection of our size, because we’re huge. But if you have a place that brings those individuals together so well we have some common expertise and we are each linked to have individual expertise, great things can happen in terms of coming up with innovative content and innovative delivery mechanisms. I really see that as one of the main advantages of the Center.”

Tom Hanlon