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Greg Taffet is scouting for talent.

Taffet, the CIO of U.S. Gas & Electric Inc. in North Miami Beach, Fla., brought on four new staffers in the past six months and is looking to add 11 more to his current team of 20. His list of open positions includes an EDI programmer, a risk management programmer, a CRM programmer, a business analyst and an assistant IT manager.

Taffet says he doubts any new college grad could easily fill any of those roles. Undergraduate and graduate programs aren't able to keep up with the needs of enterprise IT shops, he says.

"It's a horrible statement to say, but there's just not enough time to [learn in college] all the skills that people need to be successful. We are expecting more and more, and universities are supplying more, but we're asking for still more," Taffet says.

What "more" do Taffet and other IT leaders want? They continue to value the "soft skills" -- particularly communication skills, customer service skills and an understanding of how to behave professionally -- that have topped their list for years.

They're also now encountering several gaps in specific business and technical skills. Computerworld surveyed IT managers to find out what skills they wish their newest hires had picked up while they were still in college.

1. Wanted: An understanding of basic business functions

Sure, new computer science grads can program, but do they understand accounts receivables, logistics and operations, or marketing plans?

Probably not, says Todd Thibodeaux, president and CEO of the Computing Technology Industry Association (CompTIA), headquartered in Downers Grove, Ill.

That's because most students in computer science undergraduate programs still do the majority of their coursework within that field of study -- even though many tech grads end up in corporate IT positions where they're expected to develop applications to facilitate the work done by other departments. And while IT programs at the graduate level are better at getting students into business courses, there can still be a knowledge gap.

Colleges also are starting to address the problem, says Brian Janz, an MIS professor at the University of Memphis's Fogelman College of Business and Economics and associate director of the university's FedEx Center for Supply Chain Management.

The university is in its second year of following the IS 2010 model curriculum designed by the Association for Information Systems (AIS) and the Association for Computing Machinery (ACM), which calls for teaching tech students both IT skills and professional skills such as communication and leadership.

The switch has brought more business studies into the MIS coursework, Janz says. "There are always going to be gaps that are going to be very specific to the hiring organization, but we can make sure the foundation is there," Janz says. "If we can give them the sound foundation, [businesses] can give them the stuff specific to their organization."

In the meantime, IT leaders have developed strategies to ensure their new employees have basic business acumen. Taffet, for example, seeks out new grads with some professional work experience -- and a corresponding understanding of how a business operates -- although he says they're often snapped up quickly by others.

For those new hires who don't have sufficient business knowledge, particularly in the area of finance, Taffet teaches what he calls "Finance 101" courses, which are informal lessons on basic business accounting concepts like accounts receivable and accounts payable.

"It's less glamorous than a lot of the new things that are being taught, but it's just as important that an employee understand [the business functions] that all companies have," Taffet explains.

2. Wanted: Experience with enterprise systems integration

There's no denying that college students, no matter what their major, get plenty of computer experience. But that experience doesn't mean that students are schooled in the IT processes that businesses use, says Thibodeaux.

Most computer science students spend a majority of their time in college learning how to build their own applications and systems, he points out, even though businesses often don't necessarily need that type of expertise.

"When you get into the business world, it's a lot less about having to create your own system and more about how to integrate systems," Thibodeaux says.

New grads who can build their own systems from scratch may be impressive, he explains, but many companies find better value in those who can integrate multiple big enterprise applications and commercial packages or can take a function created internally and integrate it into an established system.

Faced with this skill gap, many corporate IT departments choose to train new hires themselves, he says. Large companies tend to engage consultants to aid in the process, while small and midsize companies find ways to train new employees directly.

3. Wanted: Knowledge of emerging enterprise technologies

Business intelligence (BI) and [cloud computing](#) are two the emerging tech trends that are high priorities to enterprise IT managers these days, but those topics haven't trickled down into college curricula yet.

Colleges can offer only so many courses, and with technologies changing so rapidly, there tends to be some lag time when it comes to developing extensive coursework in evolving trends, says Marty Sylvester, senior vice president of Modis, an IT staffing firm in Harrisburg, Pa.

Sylvester says he regularly hears from CIOs who say how hard it is to find young workers trained in emerging enterprise technologies, particularly cloud computing.

Some companies offer crash courses to get their new hires up to speed. Bruce Ballengee, CEO of Pariveda Solutions, says his Dallas-based IT consultancy plans to make 100 job offers to college grads this fall, with most offers going to those with bachelor's degrees in MIS or computer science.

Still, Ballengee says his company's new hires will start with a week of "developer school" to familiarize them with emerging areas that they may not have covered in college, such as cloud computing and BI, as well as in-demand enterprise programming languages like SQL, .Net and Java.

4. Wanted: The tech basics

As IT becomes increasingly advanced, Jeff Bowden has seen a decline in the ability of college graduates to handle simple tech tasks. "One gap we're finding is that colleges don't teach the real basic basics," says Bowden, director of IT Systems at Dassault Systmes, a software vendor in Auburn Hills, Mich.

Bowden needs his new hires to have low-level tech skills -- to know their way around a command prompt, understand batch scripting or know how to fix a PC when it's not responding to input from the mouse.

"When you started 20 years ago, you were forced to learn this, but as computers evolved, people ignored this basic stuff. Yet there can be a strong need for it when you're troubleshooting computers" -- a task that's often part of an entry-level IT job, Bowden notes.

Bowden says he often leaves his new hires to figure out what to do on their own when faced with basic tech problems. "Our preference is getting them to learn how to do it, Googling it, and so on. Then it's something they own," he says. "Once you have your hands-on [experience] a few times, then you know the technology," he said, adding that he'll get a more senior staff member to teach a new hire if time is short.

5. Wanted: Familiarity with legacy systems

Modis's Sylvester says businesses are looking for people who can work on legacy systems. They want tech workers who know Cobol, Customer Information Control System (CICS) and other mainframe skills. But colleges aren't teaching them anymore, Sylvester says.

"There's a real concern that some of the mainframe skills that companies will be losing as the boomers retire aren't being taught in the universities at all," adds Jerry Luftman, executive director and distinguished professor at the School of Technology Management at the Stevens Institute of Technology in Hoboken, N.J. Luftman says some companies ask their legacy vendors to train new hires directly on the existing systems.

Luftman and Sylvester both say that companies are seeking out college grads willing to learn legacy systems, although it's not an easy task to find them. They say that companies are trying to entice new workers to learn mainframe skills by making the case that a recent college graduate who's up on both the latest technologies and legacy systems will be doubly marketable.

"The skills to support legacy systems are marketable to many large organizations -- corporations, government, service providers," Luftman says, although recent grads "might not always see the bigger picture or long-term opportunity at such a young age."

6. Wanted: Real-world perspective

IT exec Dale Denham says, in his experience, new college graduates tend to think in a tunnel, concentrating on the best technology without considering what's best for the company's fiscal constraints or employee population.

"I have a lot of people who, for example, know how to design the best-looking database on paper [or] the best utilization for [storage](#), but they're not looking at the fact that user experience will be impacted," says Denham, CIO of Geiger, a Lewiston, Maine-based company that distributes promotional products.

"They don't know how to balance IT with what the business needs. Or they might not realize the cost of doing something, the time it takes, the skills required," he adds. Most hires pick those skills up on the job, but "the schools could set the foundation for it."

Denham says he tries to bring new hires down to earth by walking them through the reasons why their designs won't get the green light, even though the technology might be sound. "If they're open-minded, then mentoring will work," he says.

7. Wanted: The ability to work as a team

It might come as a surprise, but the generation steeped in [Facebook](#), [Twitter](#) and other online communities turns out to not be particularly skilled at building the same collaborative spirit in the workplace, IT leaders are reporting.

"As much as we'd like to think that this generation is all about social media, working together continues to be a significant challenge," Thibodeaux says, noting that this weakness is particularly prevalent among computer science majors who spent a lot of their college time working on projects alone.

"A lot of them don't know how to work together effectively or set and manage expectations. That's not being taught very well in colleges or graduate schools."

James T. Brown, president of consulting and training firm SEBA Solutions in Viera, Fla., says some colleges are trying to address the gap by assigning more coursework to teams, rather than individual students, but the students in the teams often just break down the assignments into individual parts that they each do on their own.

Brown says only a handful of companies have robust leadership and team-building training programs for their workers, including tech employees, but those companies that do offer such programs recognize that they get the full value of any employee when he or she works well with others.

And a few traits IT managers love...

While it's true that IT managers are dismayed that new tech grads lack certain specific skills, overall they agree that this new generation is tech-savvy, hard-working and willing to learn.

CompTIA's Thibodeaux says he hears from colleagues that the latest graduates are energetic, creative and eager to contribute.

"I'm not sure that was always the case," he says. "Twenty years ago there was more of a command-and-control environment. People didn't volunteer themselves or jump into projects as much. The kids today like variety, and they have the energy, creativity, and good nature that comes along with that."

IT executives also say their latest college hires have an intuitive sense of technology -- in particular, social networking acumen and novel ideas on how to apply it to enhance business performance.

"Often they have great insights as to what ought to be tried or to what might work," says John N. Oglesby, an IT executive in Tennessee and a founding member of the Memphis chapter of the Society for Information Management. "They bring a completely new outside perspective, and that's typically where innovation comes from."

This story, "7 Key Skills New IT Grads Are Lacking" was originally published by [Computerworld](#).