USPTO must cater qualification rules to emerging tech: in-house

Counsel at IBM, Siemens and three other companies say the office should expand its list of majors that automatically qualify applicants to sit the patent bar

By **Rani Mehta**

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The USPTO recently expanded its list of automatically qualifying degrees to sit the patent bar exam to include new disciplines such as aerospace engineering, bioengineering and biological science.

Counsel at IBM, Siemens, Blaze Bioscience, Nokia, Lenovo and Finnegan say this change was a good first step but stress that more needs to be done to attract skilled and diverse attorneys into the intellectual property profession.

Several of these sources say the office needs to further broaden its list of category-A degrees – which automatically qualify budding patent attorneys to take the USPTO's exams – to include more software-related disciplines, or else implement more radical reform.

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They tell Managing IP that they hope the office will add degrees related to mathematics and AI to the category-A list, because doing so could draw more lawyers skilled in software and emerging technologies to the field.

Erika Arner, partner at Finnegan in Virginia, points out that most patents granted by the USPTO involve computer software or AI – according to recent research, 63.2 % of patents issued in 2020 were for software-related inventions.

"If the goal is to attract practitioners who are qualified to assist inventors in getting patents, focusing on the types of patents that are popular would be a helpful next step," she says.

Other counsel say the office should reconsider whether limiting category A to specific degrees is right for the profession, noting that the USPTO could better accommodate degrees that focus on emerging tech if it were more flexible.

When the USPTO announced these changes on September 22, it also said it would accept graduate degrees under category A and make certain lab requirements more flexible under category B – the list of qualifications for prospective patent attorneys who don't meet the category-A requirements.

Counsel add that they are generally happy with those changes because they could help attract more qualified applicants to the bar.

This issue was brought to the USPTO's attention by the US Congress in December 2020 when senators Mazie Hirono, Thom Tillis and Chris Coonssent a letterto former director Andrei Iancu arguing that the list of necessary requirements should be expanded.

In-house counsel told Managing IP soon after that they agreed with the senators and hoped the office would follow that advice.

Software and math needed

The new category-A degrees introduced by the USPTO also include biophysics, electronics

The new category A degrees introduced by the USPTO also include biophysics, electronics engineering, environmental engineering, genetic engineering, genetics, marine engineering, materials engineering, materials science, neuroscience, ocean engineering and textile engineering.

The gaping omission there, counsel point out, was computer science. Computer science majors are only accepted under category A if the related programme is certified by the Computing Accreditation Commission or the Accreditation Board for Engineering and Technology.

In 2020, Mary Hannon, then a student at DePaul University College of Law and now an associate at Sidley Austin, published a report about broadening the requirements to sit the patent bar. It was this report that inspired the senators to write their letter to the USPTO.

Hannon pointed out that top schools such as Stanford University, Carnegie Mellon and the University of California Berkeley were not accredited by these agencies, which meant that the USPTO was potentially excluding talented individuals with software-related degrees from these institutions.

Andrea Evensen, lead IP counsel at Siemens in Illinois, says the office's decision not to change this requirement was a missed opportunity because so many companies pursue software-related patents, including hers.

The office said when it announced these changes, however, that it would continue to evaluate the requirement. Evensen says this declaration was good news, even if the USPTO didn't specify a timeline.

Stakeholders had asked the USPTO to include artificial intelligence-related degrees in its category-A list. But the office reasoned that there was little point because no patent bar candidates with degrees in that subject had applied in the past three years.

Some attorneys don't think this was a good enough reason to leave AI degrees off the list.

Evensen at Siemens points out that prospective attorneys might not have applied precisely because their degrees weren't included under category A, and that perhaps they didn't want to go through the extra application process to be accepted under category B.

Counsel say the office should also include mathematics majors in its list of category-A degrees for at least two reasons. The first is that such a move could encourage more women to practise patent law. According to the National Center for Science and Engineering Statistics women obtained over 40% of bachelors and masters degrees in mathematics in 2016

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The report found that in the same year women obtained just 21% of bachelors and 25% of masters degrees in engineering.

The second, as Evensen points out, is that math is fundamental to solving a lot of engineering and software problems.

More radical reform?

But to really drive more skilled and diverse people into the patent profession, some sources argue, more radical reform might be needed.

Some attorneys say the office should include all degrees in certain general fields in category A, such as biology, physics or engineering.

Jennifer Johnson, vice president of IP at biotech company Blaze Bioscience in North Carolina, says adopting this policy could allow bar applicants who have studied useful subjects such as climate biology or climate physics to automatically qualify.

“They could have made this a much more flexible system,” she says.

Other sources say that the USPTO should make it easier for individuals with non-technical qualifications to sit for the bar, arguing that they could still make great patent prosecutors.

They point out that attorneys with technical degrees who pass the patent bar can prosecute in any field, including those that aren’t related to their areas of expertise.

Elaine Drager, lead counsel of strategic partnerships and technology leadership at Nokia in New Jersey, says she doesn’t know how much sense it makes to let a chemist prosecute in computer science and not leta ham radio operator with an English degree prosecute in radio technology.

Non-technical majors can take the patent bar if they pass the Fundamentals of Engineering (FE) test. But Drager says this barrier could be revised or revisited.

“There are times that people who would be much better patent attorneys are precluded, and there are

times when people prosecute patents that are above their heads from a technical perspective, and you get results that reflect that," adds Drager.

The office could also be more flexible in its consideration of practical experience under category B, say sources.

Nicole Spence, senior IP attorney at IBM in New York, says the USPTO could accept publications in scientific journals or credible blogs instead of course credits for those who apply under category B.

The right changes

Sources emphasise that while more change is needed, the USPTO did get it right when it introduced its latest batch of patent bar reforms.

Counsel say the inclusion of graduate degrees in category A makes sense because it shouldn't matter whether attorneys' technical expertise comes at an undergraduate or graduate level.

Jason Friday, senior IP counsel at Lenovo in North Carolina, says someone with a master's degree will usually have acquired technical skills that are a level above those required to practise patent law.

"A master's degree is more than enough to demonstrate that someone can, at a minimum, figure out what an inventor is telling them and turn that into a reasonable patent application," he says.

Sources also praised the USPTO's decision to allow category-B candidates to apply with eight semester hours in a combination of chemistry, physics or biology, with at least one course including a lab.

Applicants previously needed eight semester hours of chemistry or physics obtained in two sequential courses, each containing a lab.

Arner at Finnegan says the new requirements still ensure that patent bar applicants have enough of a technical background to help inventors get quality patents. "I would encourage the patent office to continue to look for ways to be more flexible," she says.

Other sources are a little more uncertain about this change.

Friday says a lab is one of the biggest indications of someone's technical competency, and for that reason, he's more reluctant to see changes made in that area.

But he adds that in the long run, any developments that make it easier for bar applicants to show technical competencies are a good thing.

Emerging technologies will continue to create a demand for patent practitioners with the technical chops to protect them.

The USPTO has to make sure its requirements don't put unnecessary hurdles in the way that might drive individuals who can meet that demand away from the profession.