

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Administrative Updates to the General Requirements Bulletin for Admission to the
Examination for Registration to Practice in Patent Cases Before the
United States Patent and Trademark Office

Docket No. PTO-P-2021-0005

**COMMENTS OF
HIGH TECH INVENTORS ALLIANCE
AND
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION**

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The High Tech Inventors Alliance (“HTIA”)¹ and Computer & Communications Industry Association (“CCIA”)² submit the following comments in response to the March 23, 2021 Request for Comments from the U.S. Patent and Trademark Office (“USPTO” or “Office”).³

HTIA represents leading technology providers and includes some of the most innovative companies in the world. HTIA exists to promote innovation and American jobs through equitable patent policies and a more efficient, effective, and inclusive patent system. HTIA member companies are some of the world’s largest funders of corporate research and development, collectively investing more than \$140 billion in these activities annually. They are also some of the world’s largest patent owners and have collectively been granted nearly 300,000 patents.

CCIA is an international, not-for-profit trade association representing a broad cross section of communications and technology firms. For nearly fifty years, CCIA has promoted open markets, open systems, and open networks. CCIA members employ more than 1.6 million workers, invest more than \$100 billion in research and development, and contribute trillions of dollars in productivity to the global economy. CCIA members are also active participants in the patent system, holding approximately 5% of all active U.S. patents, as well as holding many copyrights and trademarks.

HTIA and CCIA support the three updates to the USPTO’s General Requirements Bulletin that are proposed in the *Request for Comments*. These changes will improve the fairness of the eligibility requirements, increase the efficiency of operations at the USPTO’s Office of Enrollment and Discipline and – perhaps more importantly – will represent a small step toward making both the patent bar and the U.S. innovation ecosystem more inclusive.

I. HTIA and CCIA Support the Proposed Updates to the General Requirements Bulletin

The *Request for Comments* proposes three sets of changes to the General Requirements Bulletin (“GRB”).⁴ The first would expand the list of “technical subjects” in Category A of the GRB. The second would expand the types of degrees that qualify an applicant under Category A to include advanced degrees. The third would revise the coursework requirement under Options 2 and 4 of Category B to remove the requirement that all eight of the requisite semester hours be earned in sequential courses and in either chemistry or physics (rather than a combination of

¹ A list of HTIA members is available online at <https://www.hightechinventors.org>.

² A list of CCIA members is available online at <https://www.ccianet.org/members>.

³ Administrative Updates to the General Requirements Bulletin for Admission to the Examination for Registration to Practice in Patent Cases Before the United States Patent and Trademark Office, 86 Fed. Reg. 15467 (Mar. 30, 2021) (hereinafter “*Request for Comments*”).

⁴ *Id.* at 15468.

both). This last set of proposed changes would also amend the requirement that each of the core sciences courses must include a lab to instead require that only one course include a lab and would also add biology to the list of core sciences under Option 4. Each of the proposed updates represents a small, but helpful, expansion of eligibility under the GRB's requirements.

In its *Request for Comments*, the USPTO states that “[t]he goal of the proposed updates is to ensure fairness in the application process while also ensuring that patent practitioners who represent inventors are qualified, understand the technology, and are able to communicate effectively with inventors regarding the technical features of the invention.”⁵ HTIA and CCIA support the goals of ensuring that applicants are treated fairly and that practitioners are appropriately qualified. We agree that the proposed updates will serve the interests of fairness and efficiency without having a negative impact on whether patent practitioners possess the “necessary qualifications to render to applicants or other persons valuable service, advice, and assistance in the presentation or prosecution of their applications or other business before the Office.”⁶ For this reason, HTIA and CCIA support all three of the updates proposed in the *Request for Comments*.

II. Expanding U.S. Innovation Requires Improving the Inclusiveness of the Patent Bar

In addition to improving fairness and operational efficiency, the proposed updates would also serve the critically important goal of expanding U.S. innovation. As recognized by former USPTO Director Andrei Iancu, “[t]o maintain our technological leadership, the United States must seek to broaden our intellectual property ecosystem demographically, geographically, and economically.”⁷ The patent bar is one of the most visible and influential segments of this ecosystem, and improving its inclusiveness is an essential step toward expanding U.S. innovation.⁸

The patent bar is one of the least diverse professional communities in the country. Overall, women make up only about 20 percent of registered patent attorneys and agents.⁹ And, during the 1970s and 1980s, only about 1.7 percent of USPTO registrants were racially diverse.¹⁰ While diversity among registrants has improved substantially, since the year 2000, persons of

⁵ 86 Fed. Reg. at 15468.

⁶ 35 U.S.C. § 2(b)(2)(D).

⁷ Andrei Iancu & Laura Peter, *USPTO Launches the Expanding Innovation Hub, A New Online Platform To Encourage Greater Participation In The Patent System*, USPTO Director's Forum (Mar. 23, 2020); <https://www.uspto.gov/blog/director/entry/uspto-launches-the-expanding-innovation>.

⁸ In the context of the USPTO's work on this issue, “expanding Innovation” refers to the Office's efforts “to inspire more women, minorities, veterans, and geographically and socioeconomically diverse applicants to join the innovation economy.” *Id.*

⁹ See Elaine Spector & LaTia Brand, *Diversity in Patent Law: A Data Analysis of Diversity in the Patent Practice by Technology Background and Region*, 13 No. 1 *Landslide* (Sept. 16, 2020) (finding that approximately 21.8% of USPTO registered attorneys and agents are women); Saurabh Vishnubhakat, *Gender Diversity in the Patent Bar*, 14 *J. Marshall Rev. Intell. Prop. L.* 67, Table 2 (2014) (reporting that 17.20% of members of the patent bar are identifiably female based on an analysis of the frequency at which given names occur among men and women).

¹⁰ Spector & Brand, *supra* note 9, at 1.

color have made up only around 6.5 percent of USPTO registrants.¹¹ This substantial lack of diversity is illustrated by the fact that currently there are more members of the patent bar named “Michael” than there are racially diverse women.¹²

Diversity among patent practitioners and the pool of potential practitioners varies significantly across practice areas. In a few fields, women are relatively well-represented with respect to both the award of college degrees and membership in the patent bar. For example, more than half of the bachelor’s degrees in the biological sciences are awarded to female students, and 41 percent of registrants with a background in biotechnology are women.¹³ However, in most areas the proportion of female practitioners is below 15 percent, with women making up only around 11 percent of registrants with technical training in electrical and mechanical engineering.¹⁴ Racial diversity is similarly variable across technology areas, with white registrants making up 95.2 percent of registrants with training in biotechnology.¹⁵

While improving the patent bar’s inclusiveness is not explicitly identified as a primary purpose of the proposed updates, all of the changes included in the three updates are ones that have previously been proposed as ways to improve diversity among patent practitioners.¹⁶ For example, the proposal to accept advanced degrees in technical subjects listed in Category A would enable greater gender diversity because the proportion of master’s degrees in STEM subjects that are awarded to women is significantly larger than the proportion of bachelor’s degrees.¹⁷ Additionally, the fields of study that would be added to the list of qualifying degrees under Category A are heavily weighted toward the life sciences and include subjects with a relatively higher proportion of graduates with diverse backgrounds.¹⁸ Similarly, the changes to the coursework requirements in Options 2 and 4 of Category B will necessarily expand eligibility to include a significantly higher number of individuals with diverse backgrounds. Finally, given the relatively higher participation of women in the life sciences, the addition of biology as a core subject under Option 4 of Category B will bring the population of potential practitioners that is eligible under the GRB closer to gender parity.¹⁹

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ See, e.g., Mary T. Hannon, *The Patent Bar Gender Gap: Expanding the Eligibility Requirements to Foster Inclusion and Innovation in the U.S. Patent System*, 10 IP Theory 1 (2020); <https://www.repository.law.indiana.edu/ipt/vol10/iss1/1> (suggesting each of the changes proposed in the *Request for Comments* as a means of addressing the patent bar’s gender gap).

¹⁷ See *id.* at 7 (noting that a higher proportion of women pursue master’s degrees and that in 2016, women accounted for only 19% of bachelor’s degrees in computer science but nearly 31% of the master’s degrees) (citing 34 Field of Degree: Women, Nat’l Ctr. For Sci. & Engineering Stats. (Mar. 8, 2019)).

¹⁸ See *id.* at 6-7 (pointing out that women are better represented in the life sciences relative to other fields).

¹⁹ See *id.* (reporting that women earn more than half of the bachelor’s degrees awarded in biological sciences).

III. Responses to Specific Questions Posed in the *Request for Comments*

1. What additional degrees should qualify under Category A?

HTIA and CCIA believe that the degrees proposed for inclusion in Category A in the *Request for Comments* are appropriate and should be added to the list of qualifying degrees. In addition, the USPTO should seriously consider two further changes relating to the degree requirement.

First, the USPTO should remove the accreditation requirement for computer science degrees.²⁰ None of the other qualifying degrees are subject to a similar accreditation requirement, and it is unclear what – if any – justification exists for singling out computer science in this way. Moreover, it is unclear that the accreditation requirement serves any legitimate purpose with respect to ensuring that practitioners have appropriate technical qualifications. Notably, the current rule excludes degrees from Carnegie Mellon, Stanford, and UC-Berkeley, which are the three highest-ranked computer science programs in the country.²¹

Second, the USPTO should consider more fundamental changes to the degree requirement. As noted by critics of this requirement, the relationship between being awarded a qualifying degree and one’s capability to render “valuable service” to those with business before the USPTO is tenuous at best.²² The current rules are particularly inappropriate as a qualification for those who prosecute design patents, given that such patents can only protect ornamental and not technical innovation.²³ At most, the technical degree requirement appears to have minor

²⁰ Office of Enrollment & Discipline, U.S. Patent & Trademark Office, *General Requirements Bulletin For Admission To The Examination For Registration To Practice In Patent Cases Before The United States Patent And Trademark Office* 3 (2021) (stating that “[a]cceptable Computer Science degrees must be accredited by the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB), or by the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET), on or before the date the degree was Awarded”).

²¹ See, e.g., Hannon, *supra* note 16, at 12 (observing that “Carnegie Mellon, Stanford, and UC-Berkeley tie for the number one ranked computer science program in the country, yet graduates of these programs are not deemed patent bar eligible via Category A”).

²² See, e.g., William Hubbard, *Razing the Patent Bar*, 59 Ariz. L. Rev. 383 (2017) (concluding that the degree requirement harms social welfare and proposing that it be eliminated), https://scholarworks.law.ubalt.edu/cgi/viewcontent.cgi?article=2031&context=all_fac. See also Michelle J. Burke & Thomas G. Field, *Promulgating Requirements for Admission to Prosecute Patent Applications*, 36 IDEA 145, 150-56 (1995) (arguing that the degree requirement violates the APA); Nicholas Matich, *Patent Office Practice After the America Invents Act*, 23 Fed. Cir. Bar J. 225 (2013) (arguing that the degree requirement is likely invalid under the APA’s arbitrary and capricious standard); Corey B. Blake, Note, *Ghosts of the Past: Does the USPTO’s Scientific and Technical Background Requirement Still Make Sense?*, 82 Tex. L. Rev. 735 (2004) (arguing for liberalization of the degree requirement to expand eligibility to those with degrees in design and business); Richard Spencer, *The Patent Lawyer and the General Practitioner*, 81 U. Pa. L. Rev. 924, 936 (1933) (suggesting attorneys who do not possess a technical degree should be eligible for the patent bar).

²³ See Christopher Buccafusco & Jeanne Curtis, *The Design Patent Par: An Occupational Licensing Failure*, 37 Cardozo Arts & Ent. L.J. 263 (2019) (criticizing application of eligibility requirements with respect to the design patent bar).

benefits, while it imposes significant costs and all but ensures a substantial lack of diversity in the patent bar.

At a minimum, the USPTO should create an alternative path for establishing the qualifications of those seeking to prosecute only design patents. The USPTO should additionally conduct a rigorous study of the current scientific and technical training requirements to determine whether those requirements are necessary at all. The study should assess the extent to which such training is a “necessary qualification” and whether a technical degree is in fact an essential prerequisite to rendering “valuable service, advice, and assistance in the presentation or prosecution of [] applications or other business before the Office.”²⁴

2. Should the USPTO include master’s or doctoral degrees in a Category A subject as qualifying technical and scientific training?

Yes. Completing an advanced degree in any Category A subject provides ample technical training to qualify an individual for the patent bar.

3. Should the USPTO change the Category B requirement of two sequential courses in chemistry or physics, each containing a lab to that of eight semester hours in a combination of chemistry, physics, and/or biology, with at least one course including a lab for Option 4; and to eight semester hours in a combination of chemistry and physics, with at least one course including a lab for Option 2?

Yes. The USPTO should make the proposed changes to the coursework requirements for Options 2 and 4 of Category B. These changes pose no risk to the USPTO’s ability to ensure practitioners possess appropriate qualifications and will increase the number of practitioners from underrepresented groups who are eligible for the patent bar.

Additionally, as suggested in the response to Question 1, the USPTO should also reassess whether a technical degree should be required under Category B. Currently, a technical degree is required for bar eligibility, but once admitted a practitioner is not limited to handling matters that relate to technology in which she has received formal training. Rather, practitioners are allowed to practice in any art area. Thus, under the current rules, a practitioner with a degree in botany is automatically presumed to be qualified to prosecute a patent application relating to artificial intelligence or nuclear reactor technology. It is doubtful that courses in horticulture or plant physiology – irrespective of however valuable they are to those in the field of botany – do anything to augment the ability of a botanist to ably prosecute a patent application in an unrelated field of technology or to advance the USPTO’s goal of “ensuring that patent practitioners who represent inventors are qualified, understand the technology, and are able to communicate effectively with inventors regarding the technical features of the invention.”²⁵ Whatever benefit a technical degree provides to the qualifications of a practitioner in such a

²⁴ 35 U.S.C. § 2(b)(2)(D).

²⁵ *Request for Comments*, 86 Fed. Reg. at 15468.

context comes from the general coursework in core sciences and not from more specialized additional courses. And if that is the case, it is not clear why obtaining a technical degree should effectively be a prerequisite to patent bar eligibility. Accordingly, the USPTO should consider adopting a more targeted technical training requirement that is based on completion of a specified number of semester hours in core sciences and does not require additional coursework in approved technical subjects or the completion of a technical degree.

IV. Conclusion

HTIA and CCIA believe that increasing diversity in the U.S. innovation ecosystem is critically important to maintaining our technological leadership and to sustaining the rapid development of technologies that are crucial to U.S. national security and economic growth. Improving the inclusivity of innovation in the U.S. is also essential to building a more equitable economy and society. The patent bar is a substantial component of the innovation ecosystem, making improvement of its diversity an important goal in its own right. Moreover, there is evidence that increasing diversity among patent practitioners can significantly contribute to the increased participation and success of innovators with diverse backgrounds, making this goal doubly important to expanding American innovation.

The updates to the GRB that are proposed in the *Request for Comments* will not only improve fairness and operational efficiency, but are also likely to effect a small, but significant, improvement in the diversity of the patent bar. For these reasons, HTIA and CCIA support the proposed updates and encourage the USPTO to adopt them.

HTIA and CCIA commend the USPTO for its continuing efforts to expand American innovation, strongly support those efforts, and stand ready to assist the Office in advancing this important goal in any way we are able.

Respectfully submitted,

David W. Jones
Executive Director
High Tech Inventors Alliance
1155 F Street NW, Suite 900
Washington, DC 20004
dwjones@hightechinventors.com

Joshua Landau
Reg. No. 71,491
Patent Counsel
Computer & Communications Industry Association
25 Massachusetts Ave NW, Suite 300C
Washington, DC 20001
jlandau@ccianet.org