January 31, 2023

The Honorable Kathi Vidal
Under Secretary of Commerce for Intellectual Property
and Director U.S. Patent and Trademark Office
600 Dulany St.
Alexandria, VA 22314

Via www.regulations.gov

Dear Director Vidal:

Intellectual Property Owners Association appreciates the opportunity to respond to the USPTO's Federal Register notice (RFC) titled "Expanding Admission Criteria for Registration to Practice in Patent Cases Before the United States Patent and Trademark Office," published in 87 Fed. Reg. 200 (Oct. 18, 2022).

IPO is an international trade association representing a "big tent" of diverse companies, law firms, service providers and individuals in all industries and fields of technology that own, or are interested in, intellectual property (IP) rights. IPO membership includes over 125 companies and spans over 30 countries. IPO advocates for effective and affordable IP ownership rights and offers a wide array of services, including supporting member interests relating to legislative and international issues; analyzing current IP issues; providing information and educational services; supporting and advocating for diversity, equity, and inclusion in IP and innovation; and disseminating information to the public on the importance of IP rights.

IPO's vision is the global acceleration of innovation, creativity, and investment necessary to improve lives. The Board of Directors has adopted a strategic objective to foster diverse engagement in the innovation ecosystem and to integrate diversity, equity, and inclusion in all its work to complement IPO's mission of promoting high quality and enforceable IP rights and predictable legal systems for all industries and technologies. To support the patent owner community, IPO also advocates for expanding access to the patent profession to those with the relevant skills and abilities. For instance, IPO has previously expressed its support to the USPTO for considering expansion of Category A degrees to include certain degrees that were previously listed under Category B in the General Requirements Bulletin.[1]

Some commentators have alleged that any changes to the General Requirements Bulletin (GRB) would "lower the bar" or "diminish" the criteria for admission to practice. But reasoned consideration and evolution of the GRB standards is important to safeguarding the public and ensuring that the requisite skills and technical competencies needed to represent applicants are

[1] IPO's Comments on "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," published in 86 Fed. Reg. 15467 (March 23, 2021), *available at* https://ipo.org/wp-content/uploads/2021/05/FINAL-IPO-Comments-re-Patent-Bar-Qualifications.pdf (May 24, 2021.)

accurately reflected in the GRB. That the USPTO is reviewing and proposing updates to the GRB demonstrates its commitment to protecting the public from unqualified practitioners.

IPO commends the USPTO for its continued efforts to review and consider expanding the admission criteria for registration to practice before the USPTO. This topic remains an important aspect to furthering the patent profession's ability to stay in step with the fast pace of technology advancement. Our responses to the issues raised in the RFC are below. IPO members would be happy to engage more deeply on these issues should the USPTO request additional feedback and/or partnership.

I. Response to Request 1: Require the USPTO to Periodically Review Applicant Degrees and Add Commonly Accepted Category B Degrees to Category A on a Predetermined Timeframe.

IPO supports the USPTO's efforts to consider the fast pace at which technology and related teachings evolve and endeavor to keep step with progress and education by proposing to periodically review the registration examination requirements for admission to practice before the USPTO, specifically Category B degrees for inclusion in Category A in the GRB. We offer the following additional comments.

a. The USPTO should provide clarity regarding what constitutes a "routinely accepted" or "commonly accepted" Category B degree.

The proposal in the RFC states that the USPTO undertook a review to identify "routinely accepted" Bachelor's degrees that demonstrate the requisite scientific and technical qualifications for admission to practice before the USPTO. The RFC also references "commonly accepted" Category B degrees that could be added to Category A in the General Requirements Bulletin (GRB). IPO supports this effort but respectfully submits that the USPTO should provide more clarity regarding what defines a "routinely accepted" or "commonly accepted" Category B degree, as well as any further details regarding the methodology under which these reviews were conducted, so that stakeholders are aware of the standard being used to move degrees from Category B to Category A.

b. The USPTO should provide transparency of the annual applicant data to enable collaboration in addressing impact on qualifications due to fast pace of technology.

The RFC proposes that the USPTO is considering whether to periodically review commonly accepted Category B degrees once every three years to consider whether these degrees should be added to Category A. The RFC explains that the three-year timeline, '…would provide adequate time for the USPTO to gather, review, and analyze the degree data from a sufficient number of applicants for the registration exam." IPO supports this effort and respectfully submits that transparency of the *annual* applicant data—that is being analyzed and reviewed—even before the three-year cycle would be completed, would enable USPTO customers to contribute input and in turn assist in shaping any proposals to add Category B degrees to Category A.

c. The USPTO should provide a mechanism for stakeholder or institutional petitions to move Category B degrees to Category A.

The USPTO should provide a mechanism that allows educational institutions or USPTO stakeholders to petition to have Category B degrees considered for Category A inclusion. Building on IPO's proposal under I.b., above, such a process could allow the USPTO to receive valuable insight and data from institutions and other USPTO stakeholders regarding degree programs it may or may not already be considering for inclusion in Category A. A petition or comment process could provide the public with the opportunity to aid the USPTO's efforts in evaluating Category B degrees.

Other institutions such as industry associations (*e.g.,* IEEE, ASME, ACS) or higher-education associations could provide the USPTO with assistance in navigating the landscape of heterogeneously named degree programs from various institutions that deserve consideration but that could be missed during the USPTO review cycle.

Additionally, a petition or comment process could serve other goals that are not stated in the RFC but that deserve consideration. For example, underrepresented groups might be disproportionately affected by the separation of degrees into different categories by the GRB. By allowing the public an opportunity to provide input into the evaluation cycle, valuable data and insight could be provided to the USPTO to aid in its review process.

II. Response to Request 2: Modify the Accreditation Requirement for Computer Science Degrees Under Category A to Accept Bachelor of Science Computer Science Degrees.

IPO endorses a modification to the accreditation requirement for computer science degrees under Category A to accept Bachelor of Science Computer Science degrees. IPO supports amending Category A to include computer science degrees without the need for supplemental accreditation from CSAB or ABET[2] in a form substantially similar to that presented in Appendix A.

The USPTO Should Amend Category A to Include Computer Science Degrees Without the Need for Supplemental Accreditation from CSAB or ABET.

Computer science began to be established as a distinct academic discipline in the 1950s and early 1960s, far later than most if not all the other degrees listed in Category A. The world's first computer science degree program began in 1953 and although there have been a range of educational programs offered throughout the following decades, a computer science degree from an accredited U.S. university has reached a level of consistency and rigor to be a recognized STEM degree. IPO is not an authority on the history and standardization of the Computer Science field, although IPO members include patent professionals with these technical backgrounds and degrees who continue to work closely in the discipline and are intimately familiar with the qualifications and university education in these areas. It is with this experience and perspective that we submit that these additional requirements are no longer

needed and a B.S. in computer science from an accredited university should be the sole requirement, placing the degree solidly into Category A.

The USPTO continues to require computer science degrees to have a specific supplemental accreditation. Candidates with computer science degrees from certain institutions are currently only eligible under Category A if their respective institutions separately pay for and seek supplemental accreditation from CSAB or ABET, even if the candidate's computer science degree was awarded by an accredited US college or university or foreign equivalent.[3] We note that only eight of the top 27 US computer science programs – 30% – appear to be CSAB or ABET accredited, making their graduates eligible under Category A.[4] At least nine of the remaining programs, according to their computer science program descriptions, appear to meet the accreditation requirements but have not sought accreditation.[5] Further, world-renowned programs at institutions such as Stanford University, Carnegie Mellon University, and University of California-Berkeley, which have fostered some of the most important computer science innovations in history, are ***not*** accredited by CSAB or ABET.[6]

IPO is not advancing an opinion on the benefits of program accreditation under CSAB or ABET for employment in the technical field any more than ACS[7] (American Chemical Society) certification of a chemistry degree may improve employment prospects for chemists. We instead respectfully submit that when a degree or technical field that was considered a nascent or newly developing area reaches a level of demonstrated rigor and recognition, like computer science, where accreditation is no longer essential for employment and innovation in the technical profession itself, then the USPTO should discard reliance on supplemental accreditation requirements as part of patent examination candidacy and accept a degree from an accredited university as part of Category A v. Category B.

a. Qualified Patent Attorneys/Agents with Computer Science Degrees are Needed.

Software added $503.9B to the US GDP in 2021, accounting for 42% of all intellectual property products' contribution to the US GDP.[8] Software patents are an important right conferred that, while afforded in the US, are not granted uniformly by other jurisdictions internationally. Therefore, many look to the US for patent protection of their software intellectual property. IPO members routinely seek and rely upon patent attorneys and agents who can represent them before the USPTO to pursue patent protection of software-related

[3] *Id.* at p. 3, requiring accreditation by the Computer Sciences Accreditation Board (CSAB) or the Accreditation Board for Engineering and Technology (ABET)
[4] https://www.usnews.com/best-graduate-schools/top-science-schools/computer-science-rankings
[5] The University of California, Berkeley, and Stanford University chose to no longer seek ABET accreditation for their CS programs. https://eecs.berkeley.edu/academics/undergraduate/eecs-bs/objectives-outcomes; https://cs.stanford.edu/degrees/ug/Considering.shtml (stating "[w]hile [ABET] accreditation is useful in certain disciplines such as civil engineering, it has no practical significance whatsoever in computer science.").
[6] Of the remaining ten of the top-twenty-seven programs, it is unclear based on public sources whether they meet the CSAB or ABET requirements, and this category also includes world-renowned programs, such as those at California Institute of Technology and University of Texas-Austin.
[7] ACS Approval Program - American Chemical Society
[8] U.S. Department of Commerce, Bureau of Economic Analysis, "Gross Domestic Product (Third Estimate), Corporate Profits, and GDP by Industry, Fourth Quarter and Year 2021," Table 3 https://www.bea.gov/sites/default/files/2022-03/gdp4q21_3rd.pdf.

technology, including that related to software applications, software simulation, data science, systems programming, computer architecture, artificial intelligence, machine learning, deep learning, cloud technologies, information security, cybersecurity, etc. According to data published on *IPWatchDog*, "63.1% of issued U.S. utility patents [in 2021] were 'software-related.'"[9]

In contrast, the number of agents/attorneys passing the USPTO's exam with a computer science degree is falling and computer scientists represent only a fraction of new practitioners admitted each year.[10] For example, in 2019, of the 1,029 practitioners registered to practice that year (listing degrees), only 73 had computer science degrees (7% of all practitioners).[11] The industry is experiencing a shortage of competent patent attorneys and agents in the software arts at a time when the technology and related innovation continues to rapidly develop and remains in need of innovation protection. Maintaining entry barriers for computer science candidates seeking to practice before the USPTO will worsen this problem in the future.

III. IPO's Response to Request 3: Possible Creation of a Separate Design Patent Practitioner Bar.

IPO supports establishment of a design patent practitioner bar, in which admitted design practitioners would practice solely in design patent matters. But several aspects of this proposal warrant a range of considerations and prioritization against the backdrop of competing priorities. IPO has not gathered data from its membership to suggest that there exists a high demand or need for a separate design patent practitioner bar. A new design patent practitioner bar could take the form of a limited registration, allowing holders to practice before the USPTO in design patent applications only. IPO agrees with the USPTO's proposal that existing admission criteria for full registration to practice in patent matters before the USPTO should not be affected by any expansion of the design criteria; some IPO members consider the engineering or science background required for full registration to be beneficial for practice in design cases before the USPTO. IPO also agrees that those who have or obtain a full registration to practice (as under the existing regime) should remain qualified and registered to practice in all patent matters, including both utility and design matters.

The USPTO should adopt a list of degrees that would qualify an individual for registration to practice before the USPTO in *design* patent applications as part of a new design patent practitioner bar. The degrees commonly held by USPTO design examiners are a good starting point for this list. Of the degrees that the USPTO listed in the RFC, industrial design, product design, architecture, and graphic design are worth consideration for this expanded list because, as IPO understands these degrees, they involve study and experience in relevant practicalities of creating subject matter currently eligible for design patent protection, namely the ornamental design of an article of manufacture.

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[9] "U.S. Patent Grants Fell 7% Last Year, but 'Software-Related' Grants Remained at 63%," IPWatchdog.com (March 2022). https://www.ipwatchdog.com/2022/03/21/us-patent-grants-fell-7-last-year-software-related-grants-remained-63/id=147745/#

[10] See Appendix B. Appendix B includes a graph illustrating the number of registration numbers by registration year for those having a computer science degree versus all other degrees.

[11] *Id.*

We note that diversity in relevant educational qualifications for a design practitioner bar has the potential to increase patent practitioner diversity. For example, according to Data USA females make up 63.5% of graphic designers and only 24.4% of engineers.[12] However, current rules preclude graphic designers from becoming registered design patent practitioners. However, a graphic design background could be as relevant as an engineering degree to effectively representing others in design cases before the USPTO.

Some IPO members have expressed concerns that degrees in applied arts, fine/studio arts, or art teacher education might not be sufficiently relevant to qualify an individual to practice in design patent applications because, as IPO understands these degrees, they may not be generally directed to design subject matter currently eligible for design patent protection, namely the ornamental design for an article of manufacture. However, IPO does support the ability of an examination applicant to demonstrate relevant design education experience equivalent to a listed degree in a manner consistent with current practices for hiring design patent examiners and analogous to the existing Category B and Category C equivalence criteria set forth in GRB.

A qualifying individual under any expanded list should be subject to an examination requirement regardless of how the list might be expanded. IPO does not support admission of individuals to practice in patent cases without an examination administered by the USPTO as permitted for practice in trademark cases, except pursuant to existing *pro hac vice* admission criteria. A new design-practice-specific examination is not necessarily needed, particularly if it would impose additional costs on prospective practitioners or divert USPTO resources away from much-needed improvements in examination of design cases (e.g., reducing pendency). Some IPO members have suggested that the existing registration examination should be expanded to cover more topics from design patent law and practice regardless of the creation of a design-specific patent bar due to the increased complexity of design practice and design-specific jurisprudence. If a new design-practice-specific examination is adopted, however, to align with the limited registration to practice only in *design* matters, the examination for individuals seeking such registration need not include topics that are not relevant to design practice (e.g., calculating excess claim fees, provisional application practice, and PCT practice). Relevant topics may include questions from the existing examination relating to general patent office practice and design practice, and may also include additional questions focused on the requirements and practicalities of design practice.

IPO does not support expanding admission criteria to simply being a licensed attorney, without regard for additional relevant educational qualifications mentioned above. Having a baseline minimum "technical" education for design practice, whether that be in engineering or science or a design-related discipline, is as relevant as for utility practice. This is so important that Congress granted the USPTO a special exception to the general rule that any attorney may represent a person before an agency, allowing higher standards to be set for practice before the USPTO in patent matters.[13] The USPTO should not seek to *diminish* this standard by removing requirements for relevant "technical" educational, but to *reinforce* it by expanding the

[12] *See* https://datausa.io/profile/cip/engineering?compare=graphic-design.
[13] *See* 5 U.S.C. § 500(e) and 35 U.S.C. §2(b)(2)(D).

qualifying educational background for design practice to encompass additional relevant degrees.

Although IPO generally supports expanding the admission criteria for registration to practice exclusively in design applications, such expansion should be done in a way that ensures registered practitioners have the ability to provide competent and appropriate services to patent applicants and other parties to USPTO proceedings. Some IPO members have expressed concerns that the proposed expansion could result in some "design-only" practitioners being far removed from utility practice to the detriment of the public in some circumstances. The public benefits from patent attorneys and agents who can advise on both design and utility matters, so that both the design and utility aspects of their innovations can be readily recognized and protected. There might be a risk that clients will miss opportunities to protect utilitarian aspects of an innovation if they only consult a "design-only" practitioner, who may not be knowledgeable in utility matters. Additionally, ethical practice considerations of qualifications and communication with clientele further to Rule 11.704 *Communication of fields of practice and specialization* may need to clarify that a design-only practitioner may not hold themselves out to a client as a utility practitioner. IPO suggests that the USPTO consider safeguards to protect the public against this circumstance, such as requiring advance disclosure to clients of a practitioner's limited admission to practice in design matters and ensuring a practitioner's limited admission is noted in the public register of patent attorney and agents.

Some IPO members have suggested that investing USPTO resources in this initiative to consider expanding admission criteria should not divert USPTO resources from important initiatives to decrease design examination pendency (which is near an all-time high at more than 20 months), ensure thorough and timely updates to MPEP Chapter 1500 consistent with changes in design jurisprudence, and make examiner training materials public so that examiners and practitioners are aligned on current USPTO examination practices.

IV. IPO's Response to Request 4: Clarifying Instructions in the GRB for Limited Recognition Applicants.

IPO endorses modifying Section III(E) of the GRB to enhance the process for limited recognition applicants to secure recognition by the USPTO. To this end, the proposed modifications do clarify the requirements for those individuals in several respects (e.g., by explicitly indicating that they must satisfy the requirements of Section III). However, the proposed instructions could be improved further. Several examples are provided below where small changes could add greater clarity to the process.

For instance, the proposed instructions make the following changes (shown in underline and strikethrough):

> To be admitted to take the examination, an applicant must ~~establish that~~ fulfill the requirements as stated above in Section III and 37 CFR 11.9(b), which includes that establishing that such recognition is consistent with the capacity of employment authorized by United States immigration authorities, for example the United States Citizenship and Immigration Services (USCIS)~~. The evidence~~, United States Department of State, U.S. Customs and Border Patrol, and the U.S. Department of Labor.

As an initial matter, although noting that an applicant must "fulfill the requirements as stated above in Section III and 37 CFR 11.9(b)" is a helpful reminder that applicants must meet the technical qualifications to sit for the patent bar, the passage is confusingly self-referential because this entire Section E is itself a part of Section III. A more specific reminder of the substantive requirements would enhance clarity. For instance, one fix would be to change the phrase "fulfill the requirements as stated above in Section III and 37 CFR 11.9(b), which…" to "fulfill the requirements of at least one of Category A, B, or C and of 37 CFR 11.9(b), which…".

Further, the proposed changes also introduce a potential source of confusion by proposing not just that "recognition is consistent with the capacity of employment authorized by the United States Citizenship and Immigration Services (USCIS)," as in the current GRB, but requiring that "recognition is consistent with the capacity of employment authorized by United States immigration authorities, for example the United States Citizenship and Immigration Services (USCIS)~~. The evidence~~, United States Department of State, U.S. Customs and Border Patrol, and the U.S. Department of Labor." Although one might intuitively determine that a USCIS Employment Authorization Document (Form I-766/EAD) establishes that recognition is consistent with employment authorization by the USCIS, the proposed new GRB instructions do not clarify what information will establish that recognition would be consistent with the capacity authorized by all the newly listed agencies (i.e., those identified as the "immigration authorities"). And if even one of the newly identified "immigration authorities" does not authorize employment, the proposed language seems to imply that recognition should be denied even if the applicant has a valid work authorization in the United States.

Perhaps the single biggest area of complexity for limited recognition applicants is in the request for documentation regarding work authorization. Specifically, the GRB currently states that the evidence "must include a copy of both sides of any work or training authorization and copies of *all* documents submitted to and received from the USCIS regarding admission to the United States and a copy of any documentation submitted to the U.S. Department of Labor." The proposed instructions do not materially change these requirements. Given the volume of documents provided to this broad class of "immigration authorities" (and the irrelevance of many of them to work authorization), it may be unclear if this is a literal request or simply a request for "relevant" documents (i.e., only those documents relating to work authorization, as opposed to all documents that may pertain to immigration status in the United States). To enhance clarity of process for limited recognition applicants, IPO suggests that the USPTO identify the specific documents demonstrating work authorization that are required and simply ask for a minimum required subset of those documents.

These few items notwithstanding, IPO commends the USPTO on its effort to clarify and streamline the limited recognition application process. Given the significant volume of resident aliens working and studying at US colleges and universities, it is important to establish clear and straightforward requirements for those individuals to secure recognition, as doing so will help ensure the existence of a robust pool of patent practitioners for patent owners and applicants.

V. IPO's Response to Request 5: General Request for Additional Suggestions on Updating the Scientific and Technical Requirements for Admission to Practice in Patent Matters.

Alternative paths to technical competence in new and emerging patentable technologies may be growing and offer a complementary approach towards the goal of accelerating continuous improvement and updating the patent practitioner examination process. For this reason, IPO supports the USPTO's research into updating its position on Category C, particularly relating to computer science and other information technology (IT) related disciplines. This may include data collection, review and analysis relating to the use of Category C as a viable avenue for patent exam candidates. Additionally, in the event the Fundamentals of Engineering (FE) examination remains a recognized pathway for Category C eligibility, establishment of credentials analogous to the FE exam for other technical disciplines for patentable technology that have not yet reached a stage for universities to offer traditional degrees.

The USPTO Should Consider Expansion of Category A to Include Bachelor's Degrees in Mathematics and Statistics.

Machine learning (ML) has its foundations in mathematics and statistics. As advances in ML continue, with a concomitant increase in the number of patent applications, it has become imperative to encourage and foster participation by professionals with adequate technical backgrounds to address the complex ML related inventions.

Accordingly, IPO suggests that the USPTO to amend Category A to include mathematics and statistics degrees. We have witnessed growth in innovations that rely heavily on these disciplines, such as machine learning (mentioned above), but also robotics, cybersecurity, epidemiology, autonomous and semi-autonomous vehicles, and financial technologies including digital currencies. Some of the relevant technology centers are TC 1600 (Bioinformatics), TC 2120 (AI& Simulation/Modeling), TC 2430/2490 (Cryptography and Security), TC 3680 (Business Cryptography), TC 3690 (Finance/Banking), and TC 3660 (Computerized Vehicle Controls and Navigation, Robotics). Many such technologies are multi-disciplinary but nevertheless require an understanding of complex mathematics, statistics, and computer science concepts that are often gained through academic study of these disciplines. These areas are not only core to emerging technologies, but understanding them also gives rise to a deeper understanding of the nuances of subject matter eligibility requirements, which is an area of critical importance that recently has been in flux.

Several classes are dedicated to such technologies. The table below provides some example classes (this is not a complete listing):

Class	Class Title
380	Cryptography
726	Information security
341	Coded Data Generation and Conversion
700	Data processing: Generic Control Systems or Specific Applications
701	Data processing: vehicles, navigation, and relative location
702	Data processing: measuring, calibrating, or testing

703	Data processing: Structural Design, Modeling, Simulation, and Emulation
705	Data processing: financial, business practice, management, or cost/price determination
706	Data processing: Artificial Intelligence
707	Data processing: Database and File Management or Data Structures
715	Data processing: presentation processing of document, operator interface processing, and screen saver display processing
717	Data processing: Software Development, Installation, and Management
726	Information Security

Based on broad discipline classifications used by the US News and World Report to rank undergraduate and graduate programs, IPO proposes addition of at least the following disciplines/specialties to Category A:

1. Mathematics (including Analysis, Applied Mathematics, Discrete Mathematics and Combinatorics, Financial Mathematics); and
2. Statistics.

Amending Category A to accept undergraduate and graduate degrees in mathematics and statistics from accredited US college and universities (or the equivalent from a foreign university) will lower hurdles no longer necessary for patent applicants (such as IPO's own members) which in turn can support growth in the wider slate of practitioners with these much-needed, rapidly evolving technical backgrounds.

VI. Conclusion

Thank you for considering IPO's comments. As one of the primary organizations representing IP owners, IPO would welcome the opportunity for additional dialogue regarding this important topic.

Sincerely,

Karen Cochran
President

Appendix A Regarding Request 1

Proposed Modifications to General Requirements Bulletin

Proposed Modifications to Category A Requirements

A. CATEGORY A: Bachelor's Degree, Master's Degree or Doctor of Philosophy Degree in a Recognized Technical Subject. An applicant will be considered to have established to the satisfaction of the OED Director that he or she possesses the necessary scientific and technical training if he or she provides an official transcript showing that a Bachelor's degree, Master's degree or Doctor of Philosophy degree was awarded in one of the following subjects by an accredited United States college or university, or that the equivalent to a Bachelor's degree, Master's degree, or Doctor of Philosophy degree was awarded by a foreign university in one of the following subjects:

Biology
Biochemistry
Biological Science
Biophysics
Botany
Computer Science[[*]]
Electronics Technology
Food Technology
General Chemistry
Genetics
Marine Technology
Materials Science
Microbiology
Molecular Biology
Neuroscience
Organic Chemistry
Pharmacology
Physics
Textile Technology

Aerospace Engineering
Aeronautical Engineering
Agricultural Engineering
Bioengineering
Biomedical Engineering
Ceramic Engineering
Chemical Engineering
Civil Engineering
Computer Engineering
Electrical Engineering
Electrochemical Engineering
Electronics Engineering
Engineering Physics
Environmental Engineering
General Engineering
Genetic Engineering
Geological Engineering
Industrial Engineering

Marine Engineering
Materials Engineering
Mechanical Engineering
Metallurgical Engineering
Mining Engineering
Nuclear Engineering
Ocean Engineering
Petroleum Engineering
Textile Engineering

~~*Acceptable 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. Computer science degrees that are accredited may be found on the Internet (http://www.abet.org).~~

Proposed Version of Category A Requirements

A. CATEGORY A: Bachelor's Degree, Master's Degree or Doctor of Philosophy Degree in a Recognized Technical Subject. An applicant will be considered to have established to the satisfaction of the OED Director that he or she possesses the necessary scientific and technical training if he or she provides an official transcript showing that a Bachelor's degree, Master's degree or Doctor of Philosophy degree was awarded in one of the following subjects by an accredited United States college or university, or that the equivalent to a Bachelor's degree, Master's degree, or Doctor of Philosophy degree was awarded by a foreign university in one of the following subjects:

Biology
Biochemistry
Biological Science
Biophysics
Botany
Computer Science
Electronics Technology
Food Technology
General Chemistry
Genetics
Marine Technology
Materials Science
Microbiology
Molecular Biology
Neuroscience
Organic Chemistry
Pharmacology
Physics
Textile Technology
Aerospace Engineering
Aeronautical Engineering
Agricultural Engineering
Bioengineering
Biomedical Engineering
Ceramic Engineering
Chemical Engineering
Civil Engineering
Computer Engineering
Electrical Engineering
Electrochemical Engineering
Electronics Engineering
Engineering Physics
Environmental Engineering
General Engineering
Genetic Engineering
Geological Engineering
Industrial Engineering
Marine Engineering
Materials Engineering
Mechanical Engineering
Metallurgical Engineering
Mining Engineering
Nuclear Engineering
Ocean Engineering
Petroleum Engineering
Textile Engineering

APPENDIX B- Software/Computer Science Degree v. Others (By Reg. Year)