

Accreditation

Many professions require those who “practice” in a particular area to be accredited or certified. For example, below is a description of what a Professional Engineer (PE) is from the National Society of Professional Engineers (<https://www.nspe.org/resources/licensure/what-pe>):

To a client, it means you've got the credentials to earn their trust. To an employer, it signals your ability to take on a higher level of responsibility. Among your colleagues, it demands respect. To yourself, it's a symbol of pride and measure of your own hard-won achievement.

To become licensed, engineers must complete a four-year college degree, work under a Professional Engineer for at least four years, pass two intensive competency exams and earn a license from their [state's licensure board](#). Then, to retain their licenses, PEs must continually maintain and improve their skills throughout their careers.

Yet the results are well worth the effort. By combining their specialized skills with their high standards for ethics and quality assurance, PEs help make us healthier, keep us safer and allow all of us to live better lives than ever before.

A century ago, anyone could work as an engineer without proof of competency. In order to protect the public health, safety, and welfare, the [first engineering licensure law](#) was enacted in 1907 in Wyoming. Now every state regulates the practice of engineering to ensure public safety by granting only Professional Engineers (PEs) the authority to sign and seal engineering plans and offer their services to the public.

A good list of other professions with accreditation available is at https://en.wikipedia.org/wiki/Professional_certification. Obviously, there are different levels of accreditation. Some professions require one to be accredited through a licensing procedure. Others professions do not.

What about Statisticians? Accreditation has been a subject of discussion for some time. It was not until 2010 when accreditation was offered in the US by the ASA. This was after many other statistical professional societies based in other countries, like the

Royal Statistical Society, Statistical Society of Canada, and the Statistical Society of Australia, instituted accreditation programs over the previous 15 years.

Back when I was a student, accreditation was a big topic of discussion. I was completely against it because I did not want “another hurdle to jump over” to become a statistician. Since then, my thoughts on accreditation have changed. Overall, I think this is very good for our profession. The purpose of this section is to discuss the reasons to be accredited and the process to become accredited. Please note that accreditation is **NOT REQUIRED** for practicing statisticians and still is in its infancy.

Why?

Since becoming a Statistician, I have encountered on a number of occasions individuals who call themselves Statisticians but without a Statistics degree. Accreditation partially solves this problem. Still, individuals without a Statistics degree can become accredited, but they need to show sufficient justification for why they have the proper background.

While I have not encountered this directly, colleagues have discussed “problems” involving consulting with individuals from other fields where accreditation is expected. Having accreditation available as well for Statisticians may elevate our field in the thoughts of others. Thus, a PE and PStat (ASA’s accreditation designation) can be considered to be at the same level in their professions.

Page 15 of the August 2013 *AMSTAT News* attempts to answer the “Why?” question:

Why should I apply for accreditation?

This might be the most important question of all. The question addresses the value of accreditation to the individual and to the profession. The title of the document laying out the criteria for accreditation reveals important aspects of the ASA's program: *Guidelines for Voluntary Professional Accreditation* by the American Statistical Association. Foremost is that the program is voluntary. Accreditation is not licensure. That is, one does not have to have accreditation to practice statistics the way one must be licensed to practice law, for example.

But the important word after "voluntary" is "professional." Accreditation brings value to both members of the profession and those who benefit from the work of professional statisticians.

Viewed from the profession, accreditation testifies that there is a body of knowledge known as "statistics," that accredited practitioners must be well versed in that knowledge at an advanced level, and must have applied it competently and ethically through practice for several years to be considered a professional. And, as rapidly as the theory and practice of statistics evolves, so must professional statisticians continually stay abreast of new developments in their areas of expertise.

In summary, reasons include:

- Demonstrate understanding of the area
- Ethical practice
- Continuing education

Of course, one does not have to be accredited to have these qualities, but accreditation is one witness to the wider world that statisticians are professionals, akin to architects, doctors, engineers, and lawyers.

Why is this important? Many issues that have an effect on our daily lives—our health and safety, work, standard of living, and the policies of our governments—are crucially influenced by statistics. Sound statistical practice informs sound decisions, leading to better policymaking and better outcomes. Incorrect or unethical use of statistics can produce misleading results, poor advice, and bad choices.

That is, the practice of statistics is a job for skilled professionals. Accredited statisticians are recognized by their peers as combining education, experience, competence, and commitment to ethics at a level that labels them as professionals. In addition, accreditation provides a measure of assurance to employers, contractors, and collaborators of statisticians and is a mark of accomplishment to society at large.

Levels

The levels of accreditation are:

1. GStat (Graduate Statistician) - This is an initial level of accreditation for those just beginning as a statistician. At the writing of these lecture notes, there were 125 individuals with this designation.
2. PStat (Accredited Professional Statistician™) - At the writing of these lecture notes, there were 264 individuals with this

designation. One does not need to be a GStat first to obtain the level of PStat.

The level of accreditation can be put behind one's name such as

- Herbie Husker, GStat
- Thomas M. Loughin, PStat[®]

The GStat is not a registered trademark so this is why there is no [®].

Process and costs

At the time of writing these lecture notes, the associated costs were

- \$120 application fee for PStat; no application fee for GStat
- \$85 annual maintenance fee

The ASA says that accreditation is not a money-maker for them. Rather, they offer it as an important service to their members. To offset associated fees, the ASA provides a 20% discount for attending some conferences and for taking continuing education courses at some conferences, including JSM. For example, an all-day continuing education at JSM costs approximately \$500, so there would be a \$100 savings from the discount.

There is no test that needs to be taken for accreditation. Rather, statisticians become accredited based on their background (degree and experience). This background information needs to be included in an application form. Below is a nice table from the ASA's website that further describes what is included for an application:

| | PStat® | GStat |
|---|--------|-------|
| Contact information | ✓ | ✓ |
| Cover letter | ✓ | ✓ |
| Current résumé or CV | ✓ | ✓ |
| List of degrees earned and relevant additional coursework | ✓ | ✓ |
| List of relevant work experiences (min. 5 years) | ✓ | |
| Evidence of work as a statistician | ✓ | |
| Examples of ongoing professional development activities | ✓ | |
| Contact information for two referees | ✓ | |
| Application fee (\$120) | ✓ | |

References will be contacted and asked to fill out an on-line form attesting to an applicant's background. More specific information about each area is available at <http://www.amstat.org/asa/files/pdfs/accreditation/ApplicationPreview.pdf>.

After the application is submitted, the Accreditation Committee reviews it to make a decision regarding accreditation.

Maintaining accreditation

Obviously, if one continues doing what they have been doing, they will be able to maintain the accreditation. Keeping up on new statistical methods and maintaining a particular level of competency are very important. The ASA expects that accredited members have “at least 60 hours of professional development each year” (source: <http://www.amstat.org/asa/files/pdfs/accreditation/Guidelines.pdf>). This can include continuing education courses, attending conferences, and even “self-directed learning”.

Regarding the particular levels of accreditation:

- GStat designations last for 7 years with a possible 2 year extension, if requested. Individuals should next apply for a PStat designation.
- PStat designations need to be renewed every five years. The

application process involves a similar process as with the prior application.