

# Thoughts on Professional Practice and Education

## Article 2: FS Exam as a Student Graduation Requirement

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This is the second article focusing on professional practice and education. While I suspect there is support for the thoughts I am going to reveal among the profession, many academic administrators and faculty will disagree with what I am about to say. Agreement of all is never possible. Even the best of advice is often dismissed. (Not that my advice is always the best.) There is an old Jewish saying “If God lived on earth, people would break His windows.”

By way of introduction and upon which my thoughts will be measured, I introduce myself briefly. I taught surveying for more than 30 years and still do contract teaching for surveying and engineering programs. I was a surveyor and engineer for over twenty years in the military before retiring. I have been licensed in several states as a surveyor, engineer, and attorney - almost fifty years as a surveyor. I still have an active license for each profession in at least one state.

The focus for this article will be to advocate requiring the fundamentals of surveying exam in order for a student to graduate from a surveying or geomatics program. Note and I emphasize that I am not advocating the student pass the exam in order to graduate, merely be required to take the exam.

I suspect those reading this article are familiar with the three exams required for licensure. Briefly, the first exam is the fundamentals of surveying (FS) exam. The second exam is the professional surveyor's (PS) exam. The third exam is the state specific exam. The FS exam tests the examinee on topics that a quality surveying program should cover in its curriculum. Most states, if not all states, allow senior college students to take the FS exam. Therefore, there is no barrier to prevent a surveying program from requiring students take the exam as a pre-requisite for graduation.

I provide three arguments for a surveying program to require students take the FS exam.

First, I believe a primary purpose for any surveying program is to provide graduates to feed the needs of employers and the profession. Whether the graduate seeks employment in the private or public sector, licensing is generally required to achieve more pay and higher positions. Licensing is required to own or manage surveying firms offering services to the public. What better way to begin the transition from academics to a professional stature than require the first professional exam while still involved in academic learning.

Second, the breadth and depth of surveying knowledge will never be more retentive than at or near graduation. After graduation, the graduate tends to increase their depth of knowledge in limited topic areas of surveying while

forgetting knowledge in other topic areas. By way of example, the new employee that spends the next four years after graduation doing drone mapping is likely to have forgotten a great deal of knowledge they once possessed on boundary law, measurement adjustment, and so on. Therefore, the best chance for passing the FS exam that tests on a broad range of surveying topics is immediately prior to or shortly after graduation.

I have heard students claim they will be better able to study for the FS exam later after they are employed and without the academic burdens of course attendance, homework, and course exams. I caution otherwise. My experience shows that the new graduate is often immersed in long hours at work and is soon distracted with marriage, home ownership, child raising, and family commitments. All too often the graduate who has not taken and passed the FS exam while in college, fails to pass the exam later or cannot commit the time to prepare and take the FS exam later.

For a third reason, I believe a graduate that has passed the FS exam, and placed this achievement on their resume at graduation, has many more opportunities for employment and advancement upon graduation than a graduate who has not taken the FS exam. An employer will seek out graduates and pay a higher wage to those that have already passed the FS exam. These students have proven a mastery of topics deemed necessary for professional practice and advancement.

While other compelling arguments can be made, I believe these three arguments are sufficient for those reading this article to understand the basis for my opinion. So why don't all survey programs incorporate the requirement that students take the FS exam as a pre-requisite for graduation?

I will give two reasons that seem to be prevalent reasons told to me. The first reason is that some programs rely on large number of foreign nationals to increase enrollment numbers and finance university coffers that rely on tuition money. Foreign nationals have no interest or need to pass any professional exam that is not recognized or necessary in their countries of residence. Such is their disdain for this requirement that when forced to take the exam, they select answers without contemplation. These programs fear the foreign student will switch their studies to another program that does not require the FS exam for graduation.

The second reason, perhaps partnering with the first reason, is that program administrators do not want the FS scores to be used to judge the extent of their graduate's knowledge and ultimately the quality of the surveying program. It is no secret among the profession that many surveying programs are on tenuous grounds due to low enrollment or faculty deficiencies. Often students that should not be in college, let alone a surveying program, are admitted and moved along much as many public schools move students along to graduation. Perhaps this happenstance is the eventual outcome of a society that gives a trophy to all participants, not just the winners. I will say no more

as rational arguments sometimes get lost or ambushed when placed in this arena.

Having given my opinion, I now offer advice. My advice is for professional societies to press their local surveying programs to initiate this requirement if the requirement is not already a mandate. If the program seeks the support of the profession then the profession should seek the commitment of the program toward the profession by demanding students take the FS exam.

† Other books and articles by Knud can be found at <https://umaine.edu/svt/faculty/hermansen-articles/>