

## Level of Education

I recently read some articles in older (2000) issues of STRUCTURE magazine that discussed continuing education, licensing, and minimum requirements for obtaining a license. Although this is an old subject, I would like to comment.

**"...completion of coursework in steel, concrete, masonry and wood ..."**

I would like to see Structural Engineering as a 5 year course, at a minimum. I have seen our office hire graduates with no course work in concrete and only limited understanding of seismic design. For students planning for a career in structural design, I would prefer to see completion of coursework in steel, concrete, masonry and wood, as well as foundation design and soils analysis.

Obviously the basics are required in materials, structural analysis, statics and dynamics. In addition, I believe our schools need to teach advanced courses in connection analysis and design, and seismic design, as well as provide exposure to

understanding and interpreting code requirements. Finally, I believe more exposure to project management and legal matters related to our work would be useful. All this is impossible in a 4 year timetable.

Unfortunately, it is my personal experience that many of these courses are not even available even if a student was willing to spend the time to take them. Investigation of course offerings at my state's respected university indicate that courses in masonry and wood may be offered once every six or seven years. No courses were offered recently in seismic design, yet it is just as likely for an engineer working for a large firm in Ohio to be asked to do a seismic building as it would for an engineer in California. Large firms design across state lines.

**"...many of these courses are not even available ..."**

It has been almost 30 years since I graduated. A lot of code changes have occurred in concrete, masonry and wood. The codes have become more complex, and prescribed wind loads and seismic loads and



their application to the building frame would be all but impossible without the use of computers. Still, the level of coursework is the same as it was 30 years ago. This seems unreasonable.

Thanks for listening.

*Bruce Kleinbans  
Senior Structural Engineer  
Madison, WI*

## More on Attending Out-of-Office Programs

InBox - Where Were You?  
May 2003

I read the comments by Mr. Emile W.J. Troupe, PE regarding the low attendance at the Winter Institute seminars. I was amazed that he could not believe that low attendance could be attributed to economic issues such as relative costs to attend and workload. I agree with Mr. Phillip E. White (InBox, July/August 2003) that small firms have a difficult time affording the costs associates with sending staff engineers (or principals for that matter) to the Winter Institute or similar functions. Like Mr. White, I think it would be wonderful to attend or to send staff engineers and cannot determine how firms send people to these functions.

As an owner of a four engineer/engineer intern firm, I cannot afford to miss, and

cannot have my engineers miss, more than one or two days to attend seminars. My engineers would not use vacation time to attend, and I would not ask them to do so. I'm not worried about whether or not the interns or engineers play instead of attending seminars because I trust them to be professional, so that argument fails to hold water. I'm certainly not afraid to invest in our staff's education because of job mobility. However, the costs associated with attending are not cost effective when compared to fees earned by staying home, working and meeting client deadlines.

When our staff does go to seminars, we attend one or two per year that we can have one person per seminar attend. That's all we can afford to do. Typically,

we attend the one-hour lunch seminars sponsored by local chapters of ACI, NCSEA and ACEC. Occasionally, we send an engineer to an ACI or AISC sponsored one-day seminar, if the seminar is close to home.

So to answer Mr. Troupe's question, "Where were you?", I will echo part of Mr. White's response and say that I was hard at work trying to maintain profitability of a small firm, meet deadlines and keep my clients happy so I can work tomorrow. I'll keep up with what the "nation's experts" are doing by reading the engineering journals.

*Roy C. Dean, PE  
Trumble Dean, LLC*

Congratulations, Mr. White! You stated what I have long said to myself.

I work for an even smaller engineering office, and neither I or the office can afford the time or the cost of out-of-town trips. The only seminars or talks I go to are those which are in the city and which are "reasonably" priced at no more than 2 to 3 hours of billable time, i.e. no more than \$200 to \$400! Most groups offering these talks think that \$500 and more, for a day or less, is a good price. They don't add in the cost of the trip, the hotel, etc. In my opinion, they are living in an academic dream world, one in which they don't have to bill clients to cover their "fees" but just us and their members for anything they please.

It appears that these groups think continuing education for engineers is going to make them a fortune in extra fees; but, I'm willing to bet that within 10 years there will be even fewer licensed and registered engineers than there are now. New York State has exempted its own engineers from the continuing education requirement for the



simple reason that the State did not want to pay them the \$ 2000 to \$ 3000 a year per Engineer to meet this unnecessary requirement. If the State can't afford the costs, how can either small firms or individual engineers who are not reimbursed for the costs?

The only engineers who will be licensed will be those who actually sign & seal drawings, or those who plan to open their own office. How are we to afford the excessive costs of continuing education just to satisfy a State or States, if one has multiple licenses?

*Raphael A. Marotta, Jr.  
Gleit Engineering Group, P.C.*

Bingo! Mr. White was right on the money regarding why more Engineers don't attend conventions and other programs. For the small firm, the three main reasons are cost, cost, and cost. I agree that not only the cost of the program, but also the costs of lost time are the issues. You have to pick and choose what you can *afford* to attend, not all that you might *like* to attend.

It is no wonder that when I go to a program or a conference, most of the attendees are from larger firms or public entities! (I can't imagine why I still get flyers from Wisconsin!)

*Paul C. Beck, P.E.  
Fairfield, New Jersey*

## Licensure Examinations

September 2003

I appreciated many of the Mr. Nishimura's points about the need to have the Structural I exam be in a multiple choice format. These points focused primarily on the shortcomings and limitations of an alternate format, i.e., an essay-type examination. The obvious point deserves to be made, however, that the Structural II examination remains an essay exam, so the author's very valid list of faults still apply to it and therefore to the overall exam process.

Unfortunately, the structural examinations developed by NCEES have several problems beyond mere format. I know from recent first hand experience, and from conversations with many of my peers and contemporaries, that the exams are widely viewed as inconsistent, shadowy, frustrating, and ultimately a very poor meter for evaluating engineering competency.

*Robert Zofkie, S.E.  
Chicago, IL*

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