



FBPE
FLORIDA BOARD OF
PROFESSIONAL ENGINEERS

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APRIL 2018

From the Executive Director: Session Is Over, Time to Move On

By **Zana Raybon**, FBPE Executive Director & FEMC President

The 2018 Florida Legislative Session ended on March 9, and the engineers can breathe easy. No new laws were passed that would appear to affect engineers or the practice of engineering. Of course, FBPE committees continue to work on rules and, as always, we will keep you apprised of any changes that might influence you or your engineering firm.

While the Board staff is gearing up for another renewal season beginning in November 2018, we are also finishing up the continuing education compliance audit from the 2017 renewal. We will have a report on the results of that audit in the near future. We expect to present the findings of the Board in an upcoming newsletter.

As we gear up for 2019 renewal, and with the audit in mind, I would like to remind all licensed engineers to be attentive to the [continuing education requirements](#) set forth in Section 471.017, Florida Statutes. Remember, that you must complete a minimum of 18 hours of continuing education prior to Feb. 28, 2019. No credit will be given to courses taken after this date. You will jeopardize the good standing of your license if the coursework is completed late.

Remember, continuing education for Florida laws and rules and for ethics must be obtained from a [Board-approved provider](#). Credit will not be given for courses pertaining to another state's laws and rules or ethics courses. Please refer to Rule 61G15-22 for renewal requirements. You can find all of [our statutes and rules on our website](#).

We will be sending postcards and emails later in the year to remind you that your license needs to be renewed. However, it is the responsibility of every licensee to update their address, including their postal and email addresses. I would also suggest putting a reminder in your calendar now to renew your license before Feb. 28, 2019. That way, in the event your postcard or email is lost, you will still have a reminder.

Please keep in mind that it is unreasonable to expect to renew your license on Feb. 28 and receive a license for the new biennium on March 1. If you plan to sign and seal plans in early March, you must submit your application for renewal as early as possible.

If you have any questions about continuing education requirements or renewing your license, please do not hesitate to [call our office](#). Our wish is to make the process as smooth as possible. Look for more information on our website and in later communications.



Chair's Corner: Mentoring Strengthens the Engineering Profession

By Kenneth Todd, PE, CFM, FBPE Chair

For the past five years I have given a lecture on laws and rules, ethics and the practice of engineering to senior civil engineering students at Florida Atlantic University in Boca Raton, as well as engineering students of several disciplines at Florida International University in Miami. I do this every semester in the hope it will give a student who is about to enter the engineering workforce some idea of what to expect.



It is apparent to me from discussions I've had with the students that many do not realize exactly what is involved in the practice of engineering. Several have expressed concerns about being in a decision-making position for which they are not prepared due to a lack of practical experience. This lack of confidence is understandable for a young engineer who has very little practical experience; those of us who have been around the block a time or two can help provide confidence to younger engineers through mentoring.

Although my discussions have been only with students at these two universities in the southeastern part of the state, I believe the comments I have received from these students are typical of those I would receive from students at universities throughout the state. This leads me to the challenge I am putting forth to all engineers who are more experienced: Take time to mentor those young engineers in your company who are recent graduates. They will appreciate it, and it will be quite rewarding for both you as a mentor and your company through increased productivity.

For those of you who are in private practice, I recognize that spending more time with a fellow engineer is not as profitable when both are billing for your time. However, as I have told the students in my lectures, the ASCE Code of Ethics emphasizes placing the health and safety of the public ahead of all considerations, including profit.

It is noted that many times an experienced engineer is faced with the challenge of not having previously done the engineering task at hand, but it should be recognized that many young engineers do not have the practical experience needed to make good engineering decisions. I think back to my own experience as a young engineer right out of college who had learned the theory of various engineering principles but wasn't sure how to best apply what I had learned to solve the problem. Rather than let me struggle to figure it out on my own, I give credit to those engineers I worked for who took the time to explain the best and most efficient ways, both technically and administratively, to solve various aspects of the engineering projects. This is the type of mentoring where a more experienced engineer can have a positive influence on the career of a younger engineer.

Supervisors of younger licensed engineers should also not place them in a position of making engineering decisions they are not qualified to make. This could only lead to a problem within the project and could possibly lead to a disciplinary case against the licensed supervising engineer and the licensed younger engineer. Besides, the mentoring you do today could help eliminate some bad habits the younger engineer may carry with them for the rest of their career.

When it comes to the design of a project, the design engineer, the project manager or the principle in charge are all in this together. All engineers want a technically correct project, and a consulting firm

wants a project done in an efficient manner by which they can make money. I don't know a single firm that is in business to lose money. Firms can accomplish much when all participants of a design team are contributing their technical and managerial skills to attain a successful project.

I encourage those of you who are the more experienced engineers to seriously consider being a mentor to a younger engineer, if you haven't already been doing so. In the end, I believe you will end up with better projects and you will have an employee who will be an engineer ready to lead our profession in the future.

Two Appointed to Florida Board of Professional Engineers

Two new members have been named to the Florida Board of Professional Engineers. Dylan Albergo, PE, and Scott Drury, PE, were appointed by Gov. Rick Scott.

Dylan Albergo, who succeeds Roland Dove on the Board, is an engineer at Wantman Group Inc., a national consulting firm providing a comprehensive range of infrastructure services. He received a Bachelor of Science degree in civil engineering from the Florida State University in 2011, and a master's degree in structural engineering from the University of Florida in 2012.

Mr. Albergo contributes to a wide range of complex infrastructure projects at WGI while working closely with project engineers to ensure all project components are complete, accurate, and in accordance with good engineering practice. His main responsibilities include providing structural analysis and design for prestressed concrete beam bridges, steel box/plate girder bridges, and miscellaneous structures. Based in Tampa, Mr. Albergo enjoys boating, fishing, and spending time with his wife, Grace.

Mr. Albergo said, "I am blessed to have the privilege of representing and serving the engineering community as a member on the Florida Board of Professional Engineers."

Scott Drury, who succeeds Warren Hahn, has over 15 years of experience in the field of engineering, since graduating from Auburn University with a B.S. in mechanical engineering in 2002. Mr. Drury joined H2Engineering in 2007 and later became a senior associate owner in 2016. His initiative, attention to detail, and affinity for solving technical problems made him a natural fit to quickly become the firm's leader of the commissioning department. In addition to being a licensed Professional Engineer in both mechanical and fire protection engineering, Mr. Drury is also a commissioning authority, certified firestop inspector, and LEED accredited professional.

Prior to joining H2Engineering, Mr. Drury served as a mechanical engineering intern at Engineering Ministries International, a non-profit organization that provides free architectural and design services for ministries in third-world countries. In 2003, Mr. Drury became an application engineer for Motion Reality Inc. in Marietta, Ga., where he developed, tested, and commissioned motion-capture technology systems and managed the installation processes world-wide.



Dylan Albergo, PE



Scott Drury, PE

His personal experience spans a variety of both design and commissioning projects for institutional, commercial, educational, and medical clients. These projects include both large- and small-scale projects, new construction, additions, renovations, and historic preservation. His experience also includes the design and testing of complex mechanical and fire protection systems (including smoke control systems).

Outside the office, Mr. Drury is an accomplished songwriter who enjoys volunteering at his church and spending time with his wife and two daughters.

“I am very honored to have the opportunity to serve the people of Florida as the mechanical engineering representative on the Florida Board of Professional Engineers,” Mr. Drury said. “I firmly believe in the purpose and responsibility of professional engineers — ‘to safeguard the life, health, property, and welfare of the public by promoting proper conduct in the practice of engineering and due care and regard for acceptable engineering principles’ — and I am excited to help fulfill this purpose and to improve the engineering profession as a member of FBPE.”

Terms for both Mr. Albergo and Mr. Drury run through Oct. 31, 2021.

Demonstrating Qualifying Engineering Experience for Licensure

By **National Society of Professional Engineers**
(with contribution by **William Bracken**, PE, SI, CFM)

One of the least understood areas of the engineering licensure process relates to the question of what constitutes acceptable qualifying engineering experience for the purposes of licensure.

Members of the Florida Board of Professional Engineers are, among other things, responsible for reviewing and considering applications for licensure. Among those applications is the application to take the Principals & Practice of Engineering (PE) exams. A key component of this review is determining, based on the information provided by the candidate, whether the candidate has obtained the requisite engineering experience to not only sit for the PE exam but to then offer engineering services to the public.



A version of this article was originally published by the NSPE Licensure & Qualifications for Practice Committee on July 28, 2007, but the message and cautions hold true today. All applicants are strongly encouraged to read and follow all instructions, provide only appropriate information, and provide enough information to allow the reviewer the opportunity of determining whether the candidate has obtained the requisite engineering experience.

Generally, a candidate for engineering licensure will graduate from a four-year ABET-accredited engineering program, take the Fundamentals of Engineering (FE) exam during his or her senior year, start work in an engineering position immediately after graduation, and begin to accumulate qualifying engineering experience in order to take the PE exam at the earliest opportunity. The usual requirement is four years of qualifying engineering experience.

It is generally required that all of the candidate's experience be accumulated after graduation. If, however, the candidate has worked as a full-time employee while attending school, and if the work fits the criteria for qualifying experience, the candidate may qualify to take the exam less than four years following graduation. However, depending on circumstances, it may be difficult for the candidate to demonstrate that the full-time, pre-graduation experience constitutes true engineering experience.

Many states allow for successful completion of graduate study leading to a master's degree or doctorate degree in engineering to provide for credit toward engineering experience, with one year typically credited for a master's degree and two years total for a doctorate degree including the one year for a master's degree. Candidates are encouraged to check with the state engineering licensure boards for more specific information.

Qualifying Engineering Experience

In order to constitute qualifying experience, the experience must meet a number of criteria.

First, the experience should be from a major branch of engineering in which the candidate claims proficiency.

Second, the experience must be supervised. That is, it must take place under the responsible charge of one or more qualified engineers. Generally qualified engineers must be licensed professional engineers. However, some jurisdictions will accept experience supervised by a qualified unlicensed engineer in industry situations where there is no offering of engineering services to the public.

Third, the experience must be of a high quality, requiring the candidate to develop technical skill and initiative in the application of engineering principles and sound judgment in reviewing such applications by others. The experience must be of a nature that the candidate develops the capacity to assume professional responsibility for engineering work.

Fourth, the experience must be broad enough in scope to provide the candidate with a reasonably well-rounded exposure to many facets of professional engineering. Along with highly specialized skill in a particular branch of engineering, the candidate should acquire an acceptable level of competence in his or her basic engineering field, as well as the accessory skills necessary for adequate performance as a professional.

Finally, the experience must progress from relatively simple tasks with less responsibility to work of greater complexity involving higher levels of responsibility. As the level of complexity and responsibility increases, the candidate should show evidence of increasing interest in broader engineering questions and continuing effort toward further professional development and advancement.

In assessing whether the candidate is sufficiently competent and responsible to be entrusted with or independently engage in engineering work or to supervise engineering work, state engineering licensure boards look for evidence of independent decision-making and assumption of personal accountability in design and application. In short, while the experience must be gained under the supervision of qualified professionals, it must also be professional in character.

Most of the functions that mark the engineer's work as professional revolve around various decisions that must be made in the course of a project. Examples include the comparison of and selection among alternatives for engineering work; the determination of design standards or methods; the selection or development of methods or materials to be used; the selection or development of testing techniques; the evaluation of test results; the evaluation of a contractor's performance, methods, and materials; and the development and control of maintenance and operating procedures. As an example, in mechanical engineering, the following types of experience may be considered "professional experience":

1. the design of machines, machinery, heating, ventilation, and air-conditioning equipment, power-plant equipment, engines, tools, and processes, mill or industrial layouts, mechanical systems for commercial and institutional facilities and/or the supervision of the construction of any of these;
2. the development of industrial plants and processes and/or consultation or contribution to such development;
3. operation, control, and testing of major mechanical installations, manufacturing plants, and power plants;
4. the writing of technical reports, manuals, and the like;
5. full-time teaching at an accredited college-level engineering school.

In contrast, mechanical engineering experience that is generally considered sub-professional would include the following:

1. construction and installation of machinery, heating, ventilating, and air-conditioning equipment, and other mechanical structures;
2. operation of heating, ventilation, and air-conditioning equipment, power plants, stationary machinery, mechanical manufacturing plants, and foundry and machine shops;
3. drafting, tracing, detailing, laying out, and checking shop drawings;
4. designing tools, jigs, and fixtures;
5. recording data and routine computations under supervision and inspection of materials;
6. maintenance and repair work; and
7. teaching as an assistant without full responsibility in an engineering program.

Some types of experience may be classified as either professional or sub-professional, according to the other types of work they are performed in conjunction with. If performed in conjunction with other professional work, they may qualify as professional experience. If they constitute the whole job, or are performed in conjunction with sub-professional work, they may not qualify. In mechanical engineering, these borderline tasks may include the following:

1. calculations of heat transfer, fluid transport, etc.;
2. the preparation of flow charts or logic diagrams;
3. the design of components and parts and the design of simple systems (e.g., fire protection and noise control);
4. reliability analysis;
5. installation of control, production, or environmental systems;
6. the laying out of plant equipment.

Sales work can be credited as qualifying experience only if it can be conclusively demonstrated that engineering principles, knowledge, and skill were used in the work. Selection of equipment from a catalog or similar activities cannot be counted as engineering experience.

In general, the greater the complexity of the engineering work and the greater the responsibility it entails, the more likely it will be counted as professional experience. It is important for an engineer-

intern to seek opportunities to perform more complex work and to undertake greater responsibility, so that within a few years' time, the candidate will be operating fully at a professional level.

Documenting Your Experience

In applying to your state board for licensure, you will have to document your experience and show that it meets the required criteria. This documentation consists of two parts: your own statement of what you have done, and verification by your supervisor or supervisors of the nature and extent of your experience. Contact information for persons who can verify the experience, such as a supervisor, is required. Most state boards will provide forms for the candidate and the supervisor, if applicable, to use in documenting experience. Specific requirements for descriptions of experience should be confirmed with the appropriate licensing board. Experience descriptions should generally include:

1. Title or position;
2. Level of responsibility;
3. Concise and specific descriptions of the work performed, the duties performed by the candidate, and the magnitude and complexity of the work.

It is not unusual for experience to be disqualified because the experience has not been described in a way that could be evaluated by the board of examiners. Therefore, particularly with regard to describing internship experience, it is important that both you and your supervisor, if required, use the terminology and formulations that will be of greatest assistance to the state board.

Before filling in the portion of the application forms pertaining to experience, write a rough draft of what you want to say. Then review the draft for ambiguities and weak points. If possible, have someone who has experience and familiarity with the licensure process review it also.

The following is a list of five common mistakes candidates for engineering licensure make in attempting to document experience:

1. Job titles aren't enough. No matter how impressive a job title may sound, it should be accompanied by a detailed description of your duties and responsibilities in the position. This description must make clear the nature and extent of the engineering experience involved in the job.
2. Avoid vague generalities and ambiguous phrases. "I was involved in," "I worked on," "I was engaged in," and other similar phrases are uninformative unless they are followed by a specific description of duties. Instead, use specific terms, such as "I designed," "I reviewed," "I recommended," and similar phrases. "I worked on the design of a cooling system for XYZ Factory" does not tell the engineering board whether you worked as a designer, draftsman, print coordinator, or something else entirely, or whether you did different jobs at different times during the project. Another type of vague phrase is "I was responsible for" or "I had full responsibility for." It is much more useful to specify your duties precisely.
3. Avoid vague formulations regarding the amount of time you have spent performing each type of work. If you spent only a part of your time on a particular duty, indicate the percentage of your time that was devoted to that task. If you worked on a particular task on a full-time but intermittent basis, indicate the number of weeks or months that you spent on that activity.
4. Try not to hide deficiencies in your experience through the use of vague, general language. It is better to wait until your experience is sufficient to qualify.

5. The application form is not a place for modesty. Do not assume that the full range of your duties, or the full extent of your responsibility, will be obvious from the job title or the brief summary. Failure to explain fully can lead to the rejection of your application. Go into detail, making sure that you give yourself credit for all that you have actually done. Be honest. You may be surprised to find that a single job may encompass a number of engineering functions required by many professional judgments. You should point out each of these functions and mention the types of judgments you were required to make, giving examples for major points.

In considering your application, the engineering licensure board must come to a decision as to whether your education and experience qualify you for licensure. This means that the evaluation committee must be able to understand, evaluate, and verify the facts as you present them. A specific, detailed summary of your experience, written in clear, forceful language, will greatly increase your chances of qualifying for the Principles & Practice of Engineering exam.

([A version of this article](#) originally appeared on the [National Society of Professional Engineers](#) website. It is reprinted here by permission.)

FBPE Staff Volunteers at ASCE Conference, MathCounts

FBPE staff recently volunteered at the three-day 2018 Southeast Student Conference of the American Society of Civil Engineers and at the 2018 Florida MathCounts Competition.



Students from 26 universities from around the southeastern United States, including Puerto Rico, took over the University of Florida campus in Gainesville to flex their engineering muscles in competitions, including steel bridges, concrete canoes, geowalls, and dynamic dams, at the [ASCE student conference](#).



Hundreds of middle-school “Mathletes” gathered in Daytona Beach for the Florida MathCounts Competition to challenge their math skills against one another and the clock March 22-23.

Spring is a busy time for FBPE outreach. In addition to the two volunteer opportunities, FBPE staff or representatives have or will be making presentations on engineering licensure to students in colleges of engineering at Florida A&M University-Florida State University, the University of Florida, the University of Central Florida, the University of West Florida, Florida Gulf Coast University, and Valencia College this semester.

To find out more about FBPE outreach events and to see pictures, visit the [FBPE website’s Events and Conferences page](#).

NCEES Ending Software Engineering Discipline Exam

[NCEES](#) plans to stop offering the [Software Engineering discipline](#) for the [Principles & Practice of Engineering exam](#) as of April 2019.

Only 81 candidates have requested seating for the Software Engineering discipline exam since it was first offered in April 2013, the National Council of Examiners for Engineering and Surveying says. Only 19 have registered for the discipline’s April 2018 exam.



“Per NCEES exam development policy, the Committee on Examination Policy and Procedure is required to review the history of any exam where there have been fewer than 50 total first-time examinees, in two consecutive administrations, from NCEES jurisdictions and provide

recommendations to the NCEES Board of Directors concerning the desirability of continuing the examination,” NCEES says.

In January, the committee recommended that the discipline’s exam be discontinued due to poor participation. In February, the NCEES Board of Directors adopted the recommendation.

Since the exam is offered only once a year, the April 2018 session will be the final one for the engineering discipline.

NCEES Reaches Settlement in Copyright Allegations

The [National Council of Examiners for Engineering and Surveying](#) (NCEES) and a test preparation company for certain NCEES exams have reached an \$800,000 settlement agreement regarding allegations of the unauthorized use of copyrighted practice questions belonging to NCEES. The agreement was finalized March 15, 2018.

In addition to the settlement payment, the test preparation company has agreed to permanently remove the NCEES-owned material from its print and online materials on an agreed-upon schedule. Per the terms of the agreement, the test preparation company does not admit any guilt regarding copyright infringement or liability to NCEES, and NCEES will not disclose the company’s identity.

NCEES produces licensing exams for the professions of engineering and surveying, including the Fundamentals of Engineering exam and the Principles & Practice of Engineering exam. The nonprofit organization also publishes study materials, including practice exams, to familiarize candidates with the format and content of the exams. NCEES alleged that the test preparation company used NCEES’ copyrighted practice questions in its exam preparation materials without NCEES’ authorization.

“While this settlement includes a monetary payment, NCEES’ focus, as always, was on protecting its intellectual property,” NCEES Chief Executive Officer Jerry Carter said. “NCEES and its volunteers have literally thousands of hours invested in the development of high-quality examination items that assist licensing boards in performing their important work. We will take whatever steps are required to protect our intellectual property. We are glad to have arrived at a resolution that upholds our rights.”

Special Recognition: Congratulations, Examinees

FBPE applauds all of the candidates that successfully passed the following exams. We wish them much success as they move towards the next step in their engineering careers. [See the complete list online.](#)

Legal Department: Latest Engineer Discipline

Pursuant to Rule 61G15-37.001(11), Florida Administrative Code, the Florida Engineers Management Corp. is required to post all Final Orders involving active disciplinary cases to the website until the terms of the final order are completed, or until the licensee becomes inactive, retires, relinquishes the license or permits the license to become null and void. Included in this section are the most recent cases in which final action has been taken by the Board, a brief description of the licensee’s violation and discipline as well as a link to the final order. [View actions.](#)

Mark Your Calendar

We regularly update our calendar to ensure you stay up to date with the latest events. [Check out the calendar online at our website.](#)

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