

## **ENGINEERING LICENSING PROCEDURES**

John D. Dietz, Ph.D., P.E.

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Civil, Environmental, and Construction Engineering  
University of Central Florida

### **REQUIREMENTS**

#### Education Component

Satisfied by BSE degree in Civil, Environmental, or Construction Engineering from UCF  
(all three degrees are ABET-accredited)

#### Examination Component

Fundamentals of Engineering Exam (FE Exam)

Also referred to as Engineering Intern (EI) or Engineer in Training (EIT)

Requires senior classification in (or graduation from) engineering program

Principles and Practice Exam (PE Exam)

Requires completion of degree

Requires successful completion of FE Exam

Requires completion of four years of professional experience

#### Experience Component

Four years of progressively responsible experience

Evaluated for acceptability by state board

#### Continuing Education

Required in many states (including Florida) to maintain license

### **RECIPROCITY BETWEEN STATES**

Registration is by state - several state's rights issues

Independent evaluation of qualifying experience (e.g. credit for graduate degrees,  
military service, etc.)

Eligibility for examinations - timing (e.g. completion of 4 years experience not required in  
all states)

Eligibility for examinations - acceptable degrees (e.g. some states allow registration of  
engineering technology majors)

Acceptable references

Additional examination components (e.g. seismic exam in California)

Continuing education required in some states

Examinations are uniform throughout the U.S.

Developed by the National Council of Examiners for Engineering and Surveying (NCEES)

NCEES

P.O. Box 1686

Clemson, SC 29633-1686

1-800-250-3196

[www.ncees.org](http://www.ncees.org)

## Trends

Movement to greater uniformity among states  
Virtual portability between states in U.S.  
Movement to include other countries (NAFTA)  
More states adopting continuing education requirements  
Perennial discussion of Masters Degree as minimum requirement

## EXAMINATION COMPOSITION

### FE Exam

- Eight hour, multiple choice exam, no penalty for guessing
- 120 questions in morning, 60 questions in afternoon
- Exam is closed book, closed notes. You will receive a Supplied Reference Handbook at the exam
- Different versions available, candidate choice
- Morning exam (general) is common to all exams
- Afternoon exam module will be selected when you register on-line for the exam with NCEES.
- Afternoon exam is discipline specific
  - Chemical
  - Civil
  - Electrical
  - Environmental
  - Industrial
  - Mechanical
  - Other Disciplines

### PE Exam

Eight hour, multiple choice exam  
Open book, open notes  
Discipline-specific, more than 20 different exams, including civil and environmental  
Civil examination has five versions  
Common morning exam (breadth) with all topics, no choice exam (must answer all questions)  
Five afternoon modules with specific discipline, candidate chooses module

- Geotech
- Structures
- Transportation
- Water Resources/Environmental
- Construction

Environmental examination has single version, no choice exam

## FE EXAM ADMINISTRATION DETAILS

Offered twice per year - Fall (October) and Spring (April)

Offered at several locations in Florida on Saturday

Application to take FE Exam, must file application approximately 6 months in advance

Application submitted to State Board in Tallahassee

The Florida Board of Professional Engineers

2507 Callaway Road, Suite 200

Tallahassee, FL 32303-5268

850-521-0500

[www.fbpe.org](http://www.fbpe.org)

### Degree Requirements

- Department of Civil, Environmental, and Construction Engineering graduation requirement to take (not pass) exam
- Not required by all departments in the College of Engineering
- May retake if fail, number of attempts may be limited by the State Board (it is in Florida)

## PASS/FAIL CONSIDERATIONS

### Exam Purpose

- Identify minimally competent individual
- Distinguish between pass/fail, not A/B/C/D/F
- Very broad content, especially in general exam

### Characteristics of Good Question

- “Items should be of such difficulty that they are answered correctly, on average, by approximately 70% of the first time examinees who graduated from an ABET accredited engineering degree program.”
- Time constraints acknowledged
- Equations provided in problem statement or supplied reference manual
- One or two-step calculations
- Knowledge vs. calculation
- Mixture of English and SI units, with movement towards increasing SI units

### Exam Composition

- Approximately 25% brand new questions per exam, thus historical data available to assure questions with desirable performance characteristics
- Use of repeat block of questions (equators) to determine strength of candidate pool, facilitates setting of passing point

## Pass Point Determination

- Passing point adjusted for difficulty of examination
- Passing point adjusted for strength of candidate pool
- Not a constant percentage of candidates that pass (pass rate data presented later)
- Not a constant score (percentage correct) to pass
- Each point (out of 100) is usually worth about four points (out of 240 total, 1 point for each morning question and 2 points for each afternoon question)

## When will I know?

- Scores are released 8-10 weeks after the exam date.
- Scores are posted to your myNCEES account
- Results are reported pass/fail. Those who do not pass receive a diagnostic report indicating subject areas of relative strength and weakness which may be helpful in studying to retake the exam.

## RECOMMENDATIONS

Obtain supplied reference manual from NCEES web site ([www.ncees.org](http://www.ncees.org))

Use supplied reference manual as supplemental text in all courses

Evidence suggests higher pass rate on discipline specific afternoon exam

Focus on individual strengths (In my case, I would emphasize fluids (not circuits) etc.)

Exam becomes more difficult if you wait until after receipt of degree

Desirable to pass exam prior to entry into job market

Higher Salaries

Hiring Preferences