

PE / SE LICENSING



SENH YOUNGER MEMBERS GROUP

Christopher R. Fournier, PE
Ross S. Wood, PE

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Topics

- Engineering Licensure in NH
- PE v. SE – which is best for you?
- Application Process
- Exam Preparation
- Exam Tips and Tricks
- After the Exam



Engineering Licensure in NH

- NH Board of Professional Engineers
 - SENH Member – Alex Azodi, PE, SECB

- Recognizes generic PE license w/ roster designations

- Duty to perform within area of expertise
 - Structural, Civil, Mechanical, etc.



Engineering Licensure in NH

Board	Licensee Name	License Number
ENG	CHRISTOPHER R FOURNIER	12851
ENG	REMI N FOURNIER	09054

Roster Listing

CE
MECH
EE/COMP
CE SAN
CE
ENVIR
CE-HWY
CE
CE-HWY
CE
CE
EE

Exp Date	Date of Licensure	Roster Listing
10-31-16	06-18-09	CE STR
10-31-17	07-26-95	CE



PE v. SE

- NCEES administers two separate exams
 - ▣ 8-hour Principles and Practice of Engineering (PE)
 - ▣ 16-hour Structural Engineering (SE)

- Both offered each year in NH in April and October



PE v. SE

- PE Exam
 - Pen and Paper
 - Friday: 8am-12 noon and 1pm-5pm
 - Morning session
 - 40 multiple choice questions on all topics
 - Afternoon session
 - 40 multiple choice questions on one selected topic
 - 5 civil engineering topics
 - Construction, Geotechnical, Structural, Transportation, Water Resources/Environmental



PE v. SE

- SE Exam
 - Pen and Paper
 - Friday (vertical) and Saturday (lateral)
 - Does not need to be the same weekend!
 - Morning Session
 - 40 multiple choice questions on both topics
 - Afternoon Session
 - 3 or 4 “essay” questions on one selected topic
 - Buildings or Bridges



PE v. SE

□ Passing Rates

Exam	First-time takers		Repeat takers	
	Volume	Pass Rate	Volume	Pass Rate
SE Lateral Forces Bridges	53	23%	41	41%
SE Lateral Forces Buildings	251	43%	184	32%
SE Vertical Forces Bridges	72	60%	14	50%
SE Vertical Forces Buildings	304	53%	187	34%
PE Civil Construction	869	57%	754	24%
PE Civil Geotechnical	460	63%	283	22%
PE Civil Structural	1163	67%	339	23%
PE Civil Transportation	1112	66%	973	32%
PE Civil Water Resources and Environmental	1073	71%	550	34%
PE Control Systems (October 2013)	116	58%	11	58%



Application Process

- Applications are due early:
 - ▣ For April: due January 1st
 - ▣ For October: due July 1st
- \$150 fee to NH (ask your employer!)
- Passed FE Exam
- Choose a roster listing
- Official transcript sent from University
- Professional references
- Experience summaries



Application Process

□ Roster Listings

ROSTER LISTING REQUESTED:

I feel I am qualified to practice in the following branch/es of Professional Engineering checked below and would like to be so designated in the Roster (**maximum three**). If applying for exam which discipline do you want to take?

<input type="checkbox"/> Agriculture	<input type="checkbox"/> Electrical & Computer	<input type="checkbox"/> Heating & Vent.	<input type="checkbox"/> Mining/Mineral	<input type="checkbox"/> Naval Arch/Marine
<input type="checkbox"/> Chemical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Industrial	<input type="checkbox"/> Nuclear	<input type="checkbox"/> Architectural
<input type="checkbox"/> Civil	<input type="checkbox"/> Environmental	<input type="checkbox"/> Manufacturing	<input type="checkbox"/> Petroleum	<input type="checkbox"/> Mining/Mineral
<input type="checkbox"/> Civil Highway	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Sanitary	<input type="checkbox"/> Metallurgical
<input type="checkbox"/> Control Systems	<input type="checkbox"/> Geo Technical	<input type="checkbox"/> Software		
<input type="checkbox"/> Structural – 16 hour structural exam required for new licensees by exam to receive a structural designation.				

I understand that the Board will make determination of my qualifications for such designations after review of the data submitted with this application.



Application Process

- Experience Summaries

PE Board considers this the most important part of the application

- How many are needed?

- 15-20 works

- What info is included?

- Detail what you did
- Cost of your time vs. total engineering cost
- Demonstrate increasing levels of responsibility



Application Process

- Register w/ NCEES
 - Online
 - Another fee
 - PE Exam is \$350
 - SE Exam is \$500 for each day!



Exam Preparation

- Calculator (inclusive list, no graphing calculators)
 - <http://ncees.org/exams/calculator-policy/>
- Be ready to buy & borrow lots of books
 - Beyond the NCEES recommendations (sample exam)
 - Get the exact codes & references (editions, dates, etc)
 - Professional Publications, Inc.
 - Reference manuals & practice problems
 - SE: SEAOC Seismic Design Manuals



Exam Preparation

- If PE, take NH-ASCE refresher course
- If SE, consider online course
 - ▣ ASCE-SEI, Kaplan, School of PE, PPI
 - ▣ Expensive: \$1000-\$2000
- Study
 - ▣ Know your references, tab pages, where to find info
 - ▣ Back reference examples
 - ▣ Perform practice problems to completion
 - ▣ Schedule a time to study a little bit every day
 - ▣ Start using that unfamiliar calculator



Exam Tips and Tricks

- ❑ Prepare for worst (late, bad weather, poor exam conditions)
- ❑ Be rested
- ❑ Stay in a hotel?
- ❑ Bring hearing protection
- ❑ Pack a lunch
- ❑ Take off work ahead of exam date to relax



After the Exam

- Test results are transmitted to PE Boards after 6-8 weeks
- SE Exam diagnostic report

Structural - Lateral Forces - Buildings					Your Performance Compared to Average of Passing Examinee
	Knowledge Area	Number of Items	Your Performance (No. Correct)	Your Performance (% Correct)	Average of Passing Examinees = \bar{x} You = y
1	Analysis of Structures: Lateral Forces	4	3	75	
2	Analysis of Structures: Lateral Force Distribution	9	3	33	
3	Analysis of Structures: Methods	2	0	0	
4	Design and Detailing of Structures: General Structural Considerations	3	2	66	
5	Design and Detailing of Structures: Structural Steel	5	4	80	
6	Design and Detailing of Structures: Light Gauge Cold-	-	-	-	

Structural - Lateral Forces - Buildings

Item Number Item Keyword Your Performance (see Notes)

801	Steel structure	Acceptable
802	Wood structure	Acceptable
803	General analysis	Improvement Required
804	Concrete structure	Acceptable

1. Acceptable: Achieved or exceeded the standard of minimum competency
2. Improvement required: Some improvement required to achieve the standard of minimum competency
3. Unacceptable: Did not demonstrate the knowledge required to achieve minimum competency



After the Exam

- Test results are transmitted to PE Boards after 6-8 weeks
- Application is valid for 4 consecutive attempts, just pay the NCEES fee with a short letter to NH.
- Passing one part of SE lasts for 5 years
- Promotion
 - ▣ New responsibilities
 - ▣ Pay increase

