Engineering Licensure
A Path of Opportunity
What is Licensure?

Why Bother?

Steps to Licensure

FE Exam

PE Exam
What is Licensure?
Why is it Important?

To You

To the Public
Why Bother
Steps to Licensure
Graduate from an ABET-accredited Engineering Program
Pass the Fundamentals of Engineering Exam (FE)
Acquire Engineering Experience with Increasing Levels of Responsibility with Supervision of a Licensed Engineer
Pass the Principles & Practice of Engineering Exam (PE)
Your Name, P.E.
Enjoy the Benefits of a Professional Engineering License
Pass the Fundamentals of Engineering Exam (FE)
What is the test like?
When should I take it?
How do I prepare?
TEST FORMAT
8-Hour Closed-Book Exam
2 Sessions (Morning & Afternoon)
120 Questions

FE Examination

Morning Session

Engineering Economics
Electricity & Magnetism
Chemistry
Ethics
Engineering Statistics
Fluid Mechanics
Strength of Materials
Thermodynamics
Mathematics
Statics & Dynamics
Computers
Material Properties
FE Examination

Afternoon Session

60 Questions

Disciplines
- Chemical
- Civil
- Electrical
- Industrial
- Mechanical
- Environmental

General
- Designed for all other disciplines
Chemical Module

- Chemistry
- Material / Energy Balance
- Thermodynamics
- Fluid Dynamics
- Heat Transfer
- Mass Transfer
- Chemical Reaction Engr.
- Process Design
- Computer Usage
- Process Control
- Safety

FE Examination
Civil Module
- Construction Management
- Environmental Engineering
- Hydraulics & Hydrologic Systems
- Soil Mechanics & Foundations
- Structural Analysis
- Structural Design
- Surveying
- Transportation
- Materials
FE Examination

Electrical Module

- Circuits
- Power
- Electromagnetics
- Control Systems
- Communications
- Signal Processing
- Electronics
- Digital Systems
- Computer Systems
- Water Resources
- Water and Wastewater
- Air Quality
- Solid and Hazardous Waste
- Environmental Science and Management
FE Examination

Mechanical Module

- Mechanical Design
- Kinematics and Dynamics
- Materials Processing
- Measurements, Controls
- Thermodynamics and Energy Conversion
- Fluid Mechanics
- Heat Transfer
- HVAC and Refrigeration
FE Examination

- Engineering Economics

Industrial Module
FE Examination

**General Module**

- Advanced Engineering Math
- Probability and Statistics
- Biology
- Economics
- Applied Engineering Mechanics
- Engineering of Materials
- Fluids
- Electricity and Magnetism
- Thermodynamics & Heat Transfer
WHEN
PREPARATION
Ways to Prepare

• You are preparing yourself while taking senior level courses
• Be familiar with the Supplied Reference Handbook – note there is a new handbook, 8th Edition
• Select your afternoon module wisely – review the specifications
• Review courses / Work sample questions
Myths and Truths

• The exam is scaled meaning the difficulty of your exam is taken into account in scoring
• You do not have to get 70% of the questions correct
• General is not easier but it is not harder either
• There is no set passing percentage - theoretically, everyone that takes the exam can pass – conversely, everyone could fail
Myths and Truths

• It does not matter where you get your points
• You are not penalized for guessing
• The exam will use mostly SI units but in some cases you may have US Customary units
• You have, on average, 2 minutes per AM question and 4 minutes per PM question
• Examinee Comment Forms
Myths and Truths

• Calculators are a big deal. You can only used one of the models on the acceptable list, see www.ncees.org

• It must be exactly as listed, else you will not be able to use it or you could be asked to leave the exam room
Myths and Truths

• No cell phones – this is a big deal as well
• Don’t be late – once the doors are closed you will not be admitted
• If you have questions about exam administration – contact the Board or the testing service.
Pass the Principles & Practice of Engineering Exam (PE)
8-Hour Open-Book Exam
Morning & Afternoon Sessions
80 - 100 Questions
Offered twice a year
No-choice OR Breadth and Depth Format

PE Examination
PE Exams

- Civil
- Agricultural
- Architectural
- Chemical
- Control Systems
- Electrical
- Environmental
- Fire Protection
- Industrial
- Mechanical
- Metallurgical
- Mining and Mineral
- Naval Architecture
  & Marine Engineering
- Nuclear
- Petroleum
- Structural
Civil Breadth & Depth
(All Objective format – effective April 2008)

Morning Session – Breadth Module
Afternoon Session - Depth Module

**Structural**
- Transportation
- Geotechnical

**Construction**
- Environmental / Water Resources

Civil PE Examination
Environmental

• **Water** - wastewater, storm water, resources
• **Air** – emission sources, control strategies
• **Solid and Hazardous Waste** – municipal, commercial, radioactive, special
• **Environmental Assessments** – remediation, public health, industrial hygiene

Environmental PE Examination
Now that I have my P.E.

Periodic Renewal
Continuing Education
Mobility Between Jurisdictions
NCEES Records Program
NCEES Records Program

- Designed to help simplify and expedite licensure by comity
- Open to any currently licensed individual
- Electronically retrieved by licensing boards
National Council of Examiners for Engineering and Surveying

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