



*10 Reasons to Become a  
PROFESSIONAL ENGINEER*

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# *Gee P. Eng, P.E.*

- BEE - CCNY, MBA- Baruch
- 1970-82 - Engineering Positions with NY Tel
- 1983 - Product Manager, American Bell
- 1983-87 - Project Manager, AT&T Network Systems
- 1987- Self employed
- CAROT - Led implementation of automated testing of transmission quality of telephone trunks.
- CELLULAR - Project manager for the initial deployment of the cellular network in NYC.

# *George Golovchenko. P.E.*

- BCE –CCNY, graduate studies
- 1958-present - Consolidated Edison
  - Power plant design, broad design projects  
(ask about the 650# hand on the clock)
- VP of NYSSPE, Director of NSPE, twice  
Bronx Chapter President

# *Jack M. Kleinfeld, P.E.*

- BE (ChE) -CCNY, ME(ChE) -CUNY
- 1971-1998 - St. Regis Paper/Champion International Corp.
  - Process analysis, simulation, energy, recycling, process and product development
- 1999-present – Kleinfeld Technical Services, Inc. & The Spout Rod Company, Inc.

# *Edwin J. Lemanski, P.E.*

- A.B., Columbia College, B.S., M.S., Chemical Engineering, Columbia University
- Adjunct Professor - NYIT, NYC Licensed Master Plumber, Consulting Engineer- Environmental Control systems, Industrial Process air pollution control, Plumbing Design.
- Analysis and testing of environmental systems on the Apollo Lunar Module. Consulting on potable water storage system.
- R & D on: semiconductors and hi-T refractory materials in extreme environments; equipment and techniques for detecting clandestine nuclear explosions; use of nuclear waste products for electrical power generation in auxiliary power systems for space satellites.
- Heat transfer-fluid flow analysis of nuclear reactor systems.

## *But first, what is a professional engineer?*

- A professional engineer ( P.E.) is a person who is licensed to practice engineering in a particular state or US territory after meeting all requirements of the law. To practice in multiple states or territories, the P.E. must be licensed in each state in which he or she wishes to practice.

# *OVERVIEW*

- Legal Requirements for Engineering Practice
- Professional Registration Process
- FE Examination Specifications
- Strategies for Passing the FE Exam
- Study Materials
- Answers to Common Questions
- Why Become a Licensed Professional Engineer?

# *LEGAL REQUIREMENTS*

- All States and Jurisdictions have Registration Laws Governing the Practice of Engineering
- Most States prohibit persons who are not registered PE's from:
  - advertising, using a business card, or otherwise indicating to the public that they are an engineer
  - assuming the title of engineer
  - practicing, offering to practice or holding themselves out as qualified to practice as an engineer
- Exemptions for Industrial Practice



# *What are the requirements to become licensed as a P.E.?*

- Education (ABET/EAC)
- FE Exam (EIT)
- Experience (4 years)
- PE Exam (P&PE)

# *New FE Examination Format*

FUNDAMENTALS OF ENGINEERING EXAMINATION  
MATH, PHYSICS, CHEMISTRY, ENGINEERING SCIENCE, ENGINEERING  
ECONOMICS

4 HOURS - 120 POINTS

CIVIL  
ENGINEERING  
120 POINTS

ELECTRICAL  
ENGINEERING  
120 POINTS

MECHANICAL  
ENGINEERING  
120 POINTS

CHEMICAL  
ENGINEERING  
120 POINTS

INDUSTRIAL  
ENGINEERING  
120 POINTS

# *MORNING SECTION*

• Chemistry	9	%
• Computers	5	%
• Dynamics	8	%
• Electrical Circuits	10	%
• Engineering Economics	4	%
• Engineering Ethics	4	%
• Fluid Mechanics	7	%
• Materials Science	7	%
• Mathematics	20	%
• Mechanics of Materials	7	%
• Statics	10	%
• Thermodynamics	9	%
<i>Total</i>	<u>100</u>	<u>%</u>

# *AFTERNOON SECTION*

- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Chemical Engineering
- Industrial Engineering
- General

# *FE EXAM STRATEGIES*

- Watch the time
- *THINK* before you start
- Eliminate incorrect choices
- Answer all questions
- Prepare for the test



# *STUDY MATERIALS*

- FE Sample Questions Book
- FE Exam Supplied Reference Book

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# *FREQUENT QUESTIONS*

- Can I transfer my EIT Registration?
- Will graduate school count for the 4 years experience requirement?
- What score is required to pass the test?
- If I fail, can I take the test again?
- How can I contact the registration board in my state when I'm ready for the PE exam?

## *What is an “accredited” degree?*

- Most colleges or universities that award an engineering degree are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. If you do not have a degree accredited by EAC/ABET additional experience requirements may apply.





## *After qualifying, am I licensed as a P.E. in Electrical Engineering?*

- In some states, yes.
- In other states, you are licensed as a P.E. without any other designation, however, you can practice only in your field of expertise gained by education or experience.

## *Can I become licensed nationally?*

- No. Just as with other professions, the requirements for licensure are left to the states. However, most state laws are similar to the NCEES model law so usually you do not have to pass exams again and you can be licensed by “comity”.



## *What are the 10 reasons for becoming licensed as a P.E.?*

- There are really more than 10 reasons but most will fall in four categories . . .
  - 1. A legal necessity.
  - 2. Improved employment security.
  - 3. Better opportunities for advancement.
  - 4. Personal satisfaction.

# *Legal Necessity*

- 1. If you ever want or need to become a consulting engineer, you must be licensed as a P.E.
- 2. Only a P.E. can sign and seal engineering documents that are submitted to a public authority or for public and private clients.

# *Improved Employment Security*

- 3. Restructuring, downsizing and outsourcing ARE REAL! A P.E. license may make the difference in finding new employment.
- 4. Industry and utility exemptions are being eliminated in some jurisdictions.
- 5. Continuing education is required for a professional engineer-- in some states by law but in all states in practice.

# *Opportunities for Advancement*

- 6. Many companies encourage licensure and some even pay a bonus for becoming a P. E.
- 7. In education, more colleges are requiring a P.E. license for engineering faculty or for holding certain titles.
- 8. Increasingly, in many industry, utility, and government positions, a P.E. is required for specified jobs or levels.



## *Opportunities for Advancement - Continued*

- 9. With the engineering profession now operating in an international environment, licensing may be required to work in or for other countries. You will be prepared in the event your career moves in this direction.

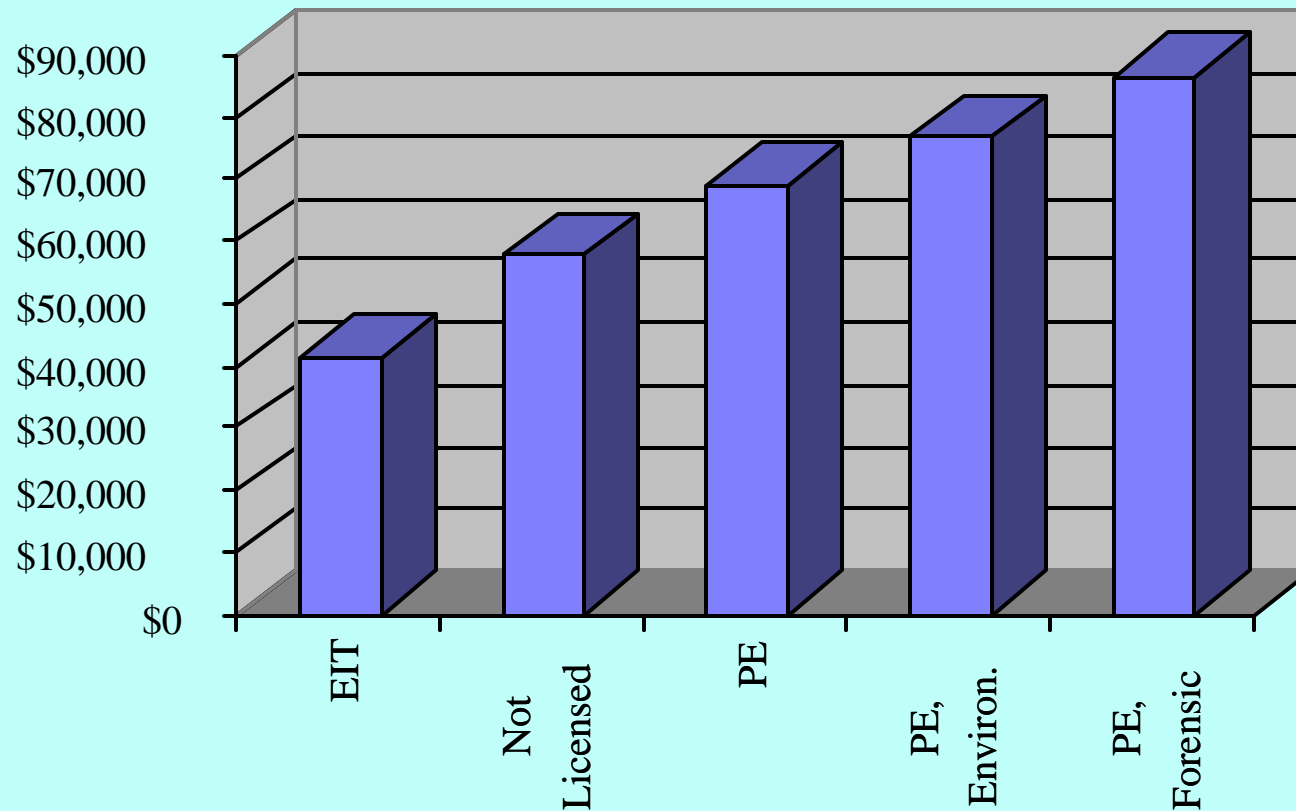
# *Personal Satisfaction*

- 10. Licensure is the mark of a professional. Ethical standards, continuing education, and professional competency are expected. P.E. after your name indicates you have met the standards and can be respected as a professional.



# ... And One More Reason

Median Income of Engineers





## *The future . . . Are you ready?*

Having a P.E. license is the best insurance policy and could affect your career. The time to start is now. Contact your state licensing board for requirements and examination dates. Licensing board addresses and phone numbers can be obtained from the Internet --  
<http://www.ncees.org/boards.html>

# *New York State web page*

- NYS Office of the Professions – Professional Engineering
  - <http://www.op.nysed.gov/pe.htm>
  - This has information and links to the applications.



*P.E.*

NSPE encourages you to get it.