

# Licensure and Exams



## Presentation Team



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# AGENDA

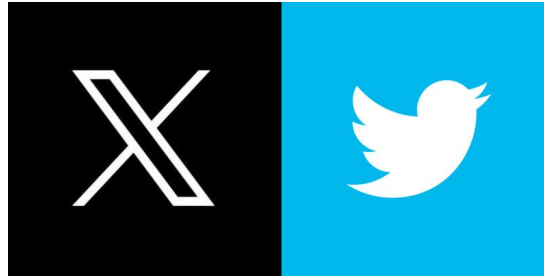
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- Overview of Engineering Practice Act
- Benefits of Licensure
- Exams / CBT
- Application Process

# Website and Social Media



<http://pels.texas.gov>



# Texas Engineering Practice Act

- Regulates practice of engineering in Texas
- Law made by legislature
- Board members appointed by Governor
- State Agency created by Act
  - Licensing
  - Enforcement
- Professional Engineers (P.E.) License
- Similar Boards in other states

# LICENSING

- Protection of the Public
- Ethical
- Competent
  - Initial Qualifications
  - Staying Current
- Professionalism

# Benefits of Licensure

- Serves as a protection of public health, safety, and welfare.
- It shows you have accomplished a recognized standard.
- Makes you equal with other professionals. Many other professions require that you are licensed to practice.

# Benefits of Licensure

- Sets you apart from others in your profession.  
(Marketability)
- “Portable” credential you can keep throughout your career.
- Law - Only Licensed Engineers Can Offer Services to the General Public
- Required for Some Positions



# Benefits of Licensure

- Much More than Just Passing an Exam!
- Increased Responsibility and Authority.
- You Will be in Responsible Charge of Your Engineering Projects.
- You Will be Held Accountable for Your Actions as an Engineer.

# REGULATION OF SURVEYING AND ENGINEERING IN TEXAS



- 1919- Initial Land Surveying Board established for surveying of public lands.
- 1937 – Texas Board of Professional Engineers established in response to New London School Explosion.
- 1955 – Additional Land Surveying Board established for surveying of private land.

# REGULATION OF SURVEYING AND ENGINEERING IN TEXAS



- 1979 – Two surveying boards merged to form Texas Board of Professional Land Surveying.
- 2019 – Texas Board of Professional Engineers and Texas Board of Professional Land Surveying merged to form Texas Board of Professional Engineers and Land Surveyors.

# TBPELS BOARD



## Nine Members - Appointed by Governor

- 5 Licensed Professional Engineers
- 1 Registered Professional Land Surveyor
- 3 Public Members
- 1 Ex-Officio Representative from GLO
- Standard term is 6 years

# TBPELS STAFF



## ■ 37 Staff members, Austin

- Lance Kinney, PhD, PE - Executive Director
- Michael Sims, PE - Compliance & Enforcement
- Rick Strong, PE - Licensing & Registration
- Mason Schoolfield- Operations

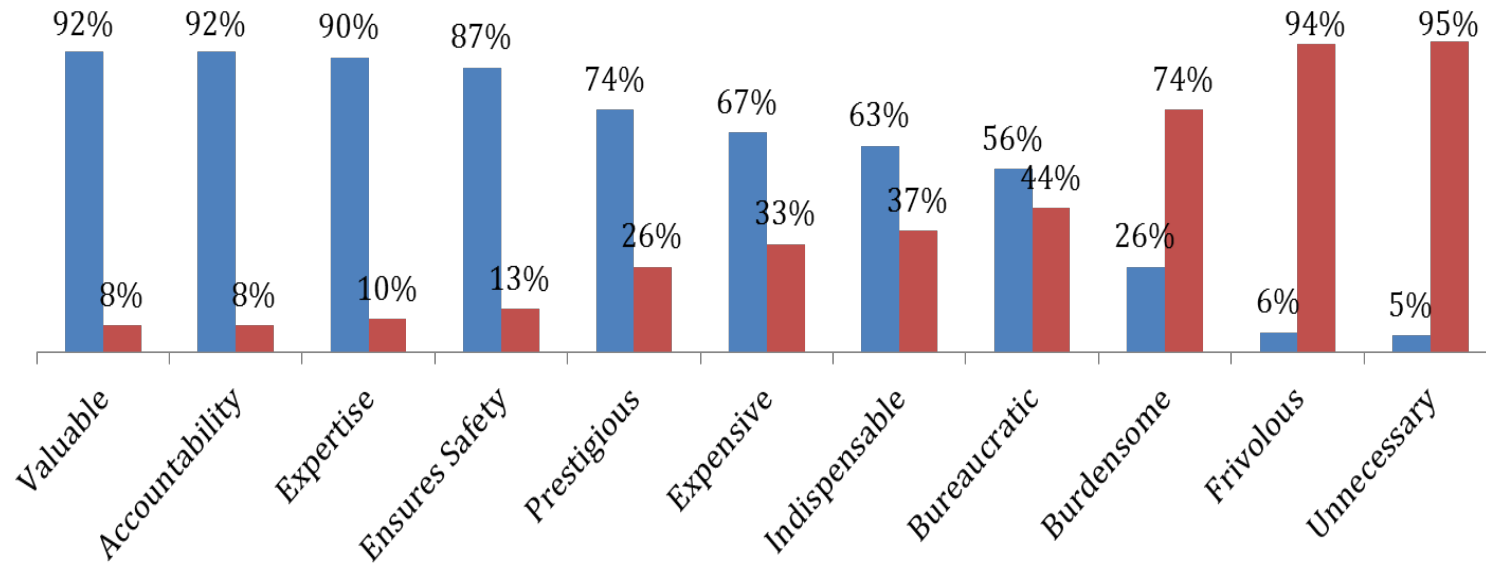
# TBPELS MISSION



## Public Health, Safety, and Welfare

Our mission is to protect the health, safety, and welfare of the people of Texas through the licensure and registration of qualified individuals as professional engineers and land surveyors, compliance with applicable laws and rules, and education about engineering and land surveying.

# PUBLIC PERCEPTION OF LICENSURE



*Please "click on" and "drag" each of these terms...based on whether you feel it describes professional licensure or not. (N=874)*

**Protection of Public Health, Safety, Welfare**

**Professional Practice and Responsibility  
Ethics, Professionalism, Competence**

**Professional Licensure**

**Ethics**

**Education**

**Experience**

**Exams**



# PROFESSIONAL RESPONSIBILITY: ETHICS



- Protection of Public Health, Safety, Welfare
- Ethical responsibilities and expectations
  - Avoid Conflicts of Interest
  - Be a Faithful Agent
  - Be prepared to have a dissenting opinion, if necessary
  - Obligation to be aware of violations of the Acts or Board rules.

How does this protect the public?

- You are expected to know the right thing to do and to do the right thing when engaged in professional practice.

# PROFESSIONAL RESPONSIBILITY: PROFESSIONALISM



■ Protection of Public Health, Safety, Welfare

■ Communication

- Honesty
- Clarity (not misleading)
- Respectful of all parties
- Maintain Public Trust
- Timely communication with the TBPELS

How does this protect the public?

- You are expected to be complete and correct in your practice.

# PROFESSIONAL RESPONSIBILITY: COMPETENCE



- Competence is gained by Education and Experience; Measured by examinations
- Texas uses nationally accepted standards but considers each application independently.
- Texas does not license by discipline, but Professional Engineers and Land Surveyors must not practice outside of their competence.
  - See Board Rules §137.59(a) and §138.59(a).

# Outreach Publications



## Applicants

*How to Become a  
Licensed P.E.*

*Benefits of Being a  
Professional Engineer.*



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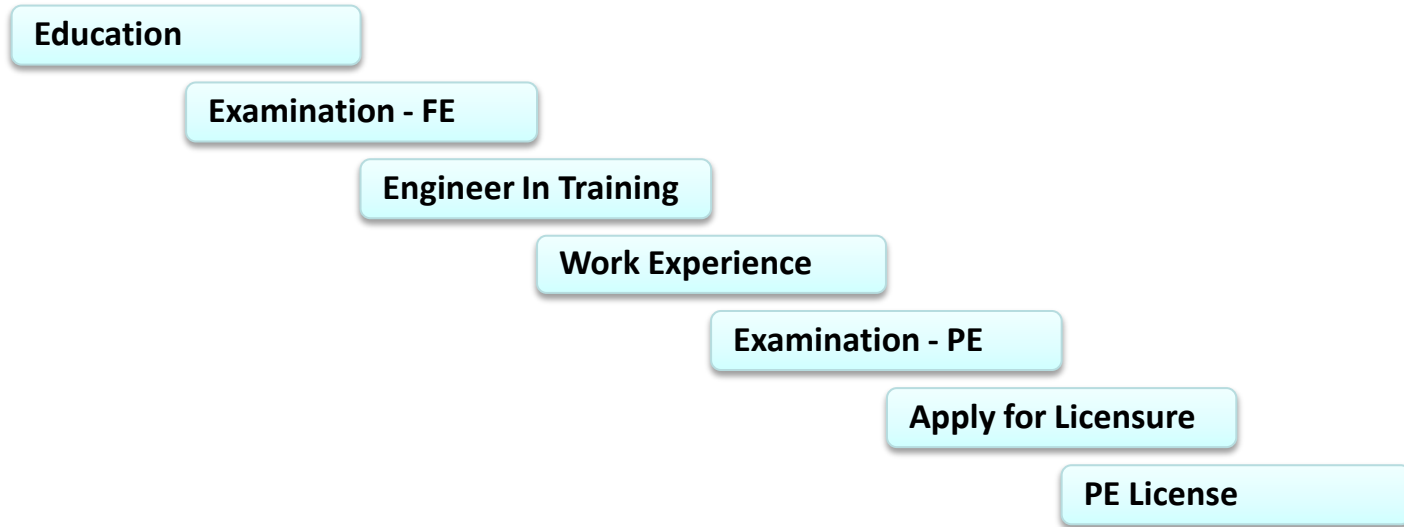
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# Typical Licensure Process Flow



# Required Education

- EAC-ABET Accredited Engineering Programs.
- Non-Accredited Programs Including Non-ABET Engineering Degrees and Related Science degrees (Math, Sciences, Engineering Technology).
- Information concerning ABET accreditation available at [www.abet.org](http://www.abet.org).

# FE Exam

- Why take the FE exam? Why now?
  - Prepared for the material
  - Familiar with taking exams
  - Targeted toward ABET graduates
  - Exam Doesn't Expire – Once you pass, you pass.
  - You never know when you'll want (or need) to get licensed
  - Civil vs 'Exempt' Engineering



# FE Exam

- Fundamentals of Engineering (FE) Exam
- FE Exam – no application. Just sign up.  
Must be within 2 semesters of graduating.
- FE Exam – may take as many times as necessary.

# FE Exam Content

- 7 free-standing, discipline-specific exams
  - Chemical, Civil, Electrical and Computer, Environmental, Industrial, Mechanical, Other Disciplines
    - No separate morning or breadth module
    - Each exam covers material commonly found in that discipline's curriculum.
    - FE exam uses both the International System of Units (SI) and the US Customary System (USCS).

# Computer Based Testing

- All FE exams as of January 1, 2024
- Price \$225
- Includes test center seat, examination, and results release
- Quarterly testing windows
- Year-round testing since January 2016
- Pearson VUE testing centers
- NCEES will release results directly to examinees within 4–10 days.

# Computer Based Testing

- Continuous Registration (24/7)
- Register online through NCEES.org
- Pay all exam-related fees directly to NCEES via credit card
- On exam day, attest to abide by rules and policies found in the NCEES Examinee Guide

# Computer Based Testing

- Exam and references on computer
- Split screen
- 24-inch monitor
- FE references
  - Searchable
  - Available on NCEES website
- Specific Approved Calculators
- Security – No Other Books or References, phones, iPads, etc.

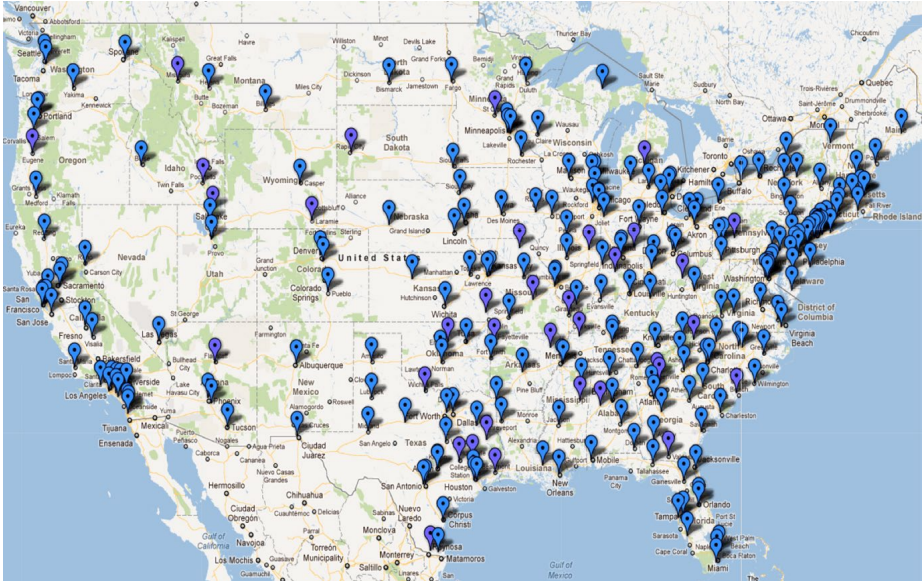
# CBT FE Exam - Format

- 110 questions
- 6-hour test center appointment
  - Tutorial–8 minutes
- Maximum Exam time–5 hours, 20 minutes
  - Scheduled break–25 minutes

# FE Civil Exam Spec

- Mathematics
- Probability and Statistics
- Computational Tools
- Ethics and Professional Practice
- Engineering Economics
- Statics
- Dynamics
- Mechanics of Materials
- Materials
- Fluid Mechanics
- Hydraulics and Hydrologic Systems
- Structural Analysis
- Structural Design
- Geotechnical Engineering
- Transportation Engineering
- Environmental Engineering
- Construction
- Surveying

# Pearson VUE





# Test Locations in Texas

- Dallas area
- Waco
- Tyler
- Texas A&M Univ.
- Abilene
- Austin
- Houston area
- San Antonio
- Lamar University
- Lubbock
- Midland
- Amarillo
- Corpus Christi
- El Paso
- Approx. 30 total

# NCEES Resources

- NCEES Examinee Guide
- CBT exam-day experience video release
- Short “how-to” videos
  - How to search the FE Reference Handbook
  - Hotkeys
  - Onscreen calculator
  - Reusable booklet for scratch work
  - How to flag items for review
  - Managing Time on exam day

# Engineer in Training Certification

- Some Employers Want EIT Certification. Demonstrate Applicant is on the Path to Licensure
- Optional – Not Required for Professional Engineer License
- Must be a Texas EIT to take the PE exam early.
- Procedure:
  - Application form and \$15 fee. [www.pels.texas.gov](http://www.pels.texas.gov)
  - Official Transcripts (degree evaluation, if foreign).
  - Exam Verification if taken outside of Texas.

# Required Experience

- 4 Years of creditable engineering work with ABET-EAC Accredited engineering Degree.
- 8 Years with Non-Accredited Degree, or qualifying Related Science degree, ABET-ETAC Engineering Technology degree.
- Experience credit for Advanced Engineering Degrees from ABET-EAC accredited programs.

# Experience

- Job - Work for Firm or Agency that does Engineering Work.
- Engineering Experience – Design, Calculation, Analysis, Specifications, Planning for Engineering Works...
- If Possible, Work Under the Supervision of a Licensed Professional Engineer.

# Experience

- You Will Need to Document Your Experience.
- Maintain Records – Weekly, Monthly, Yearly:
  - Engineering Projects You Work on.
  - Engineering Tasks You Personally Perform.
  - Who You Work for and With.

# Examination

- Principles & Practices of Engineering (PE) Exam
- PE Exam – must apply to board first. Either Texas EIT or apply for Licensure.
- PE Exam – Once approved to sit for the exam you have unlimited exam attempts.

# Decoupling

- Allows Texas EIT to take PE Exam prior to completing qualifying engineering experience.
  - Must Pass FE exam
  - Have a Qualifying Degree
- Does not reduce other requirements for licensure
- Complete application for licensure will be submitted when experience is acquired.



# Decoupling

- You do not have to take the PE Exam early.
- Unlimited PE exam attempts
- All exam registration and payments are handled through NCEES.

# PE Exam

- Offered in many disciplines: civil, chemical, mechanical, environmental, electrical, control systems, etc.
- Modules.
  - Example: Civil – Construction, Geotechnical, Structural, Transportation, Water Resources and Environmental.
  - Example: Electrical – Computer Engineering, Electrical and Electronics, Power.
- First Computer Based PE exam – chemical in 2018.
- October 2021 was the last paper PE exam

# Exam – General

- Many PE Exams are offered CBT all year around
- Register through NCEES – link on TBPELS page
- Be aware of registration and application deadlines!

# PE Exam – CBT conversion

- PE exams converted to Computer Based Test.
- Some CBT exams are offered all year.
- Some are still only offered 1 day per year.
- NCEES accelerated the CBT development.
- Structural 16 hour exam is now CBT also.

# Application for Licensure

- Either apply for licensure subject to passing the PE exam, or if you are a Texas EIT and have passed the PE exam, then you apply for Texas License
- Online or Download forms:
  - Online – credit card fee payment.
  - Download and mail with check.
- [www.pels.texas.gov](http://www.pels.texas.gov)

# Parts of the Application

- PE Application (Online or Paper Form)
- Application Fee \$75 ( Not refundable)
- Education - Transcripts
- Supplemental Experience Record
- References
- Documentation of English Proficiency (if needed)
- Ethics Exam on Laws and Rules
- Criminal History Records Check
- Verification of Examinations (if taken in another state)

# Application

- Transcripts
  - Originals Directly from Institution.
  - Official Copies of Undergraduate Degrees when with Accredited Degree.
  - Foreign Degree Evaluation.

Do not need to send again if you have Texas EIT.

# Application

- Supplementary Experience Records.
- References:
  - Regular Application 3 PE references.
  - Waiver FE exam Request 5 PE references.
- Ethics Exam: Open Book, Texas Law and Rules.
- Application Fee \$75.00 - online.



# Application

- Other
  - Documentation of English Proficiency.
  - Criminal History Records Check.
  - Verification of Examinations (if taken in another state).

# Supplementary Experience Record (SER)

- Experience can be obtained in Texas, other States, or Overseas.
- Internships, Co-ops may be creditable if More than Three Months in Duration.
- ABET-EAC advanced degree(s) = year(s) of credit.
- No credit for Research or Teaching Assistant work

# Supplementary Experience Record (SER)

- Write the SER in first person active voice:
  - I performed engineering calculations for...
  - I developed the engineering design for...
  - I prepared the engineering design plans and specifications for...
- Be specific on conclusions and outcome of project.

# Supplementary Experience Record (SER)

- Detailed description of engineering work.
- Distinguish work personally performed from group efforts.
- Project record or diary.
- Form is available on TBPE Website.

# PE References

- 3 PE References Required for your Work Experience.
  - 5 for a waiver of the FE
- Minimum 1 PE Reference for each engagement
  - All claimed engineering experience.
- Fill out form / Sign SER pages
  - Must address Personal Character, Readiness for Licensure and vouch for the Engineering Experience.
- Can be licensed in any state / May be inactive.

# PE References

- All references are confidential.
- References can be directly sent to the board or collected and sent with the application.
- Keep track of names, contact info for possible PE references.
- It is possible to get a reference in advance (from a job you have left, etc.).
- You can have a PE review prior work if no current PE is available.

# Criminal History Record Checks

- Statute changed in 2013 to Require fingerprinting for All Active license 1<sup>st</sup> renewal and new applicants after January 2014
- FAQ and detailed Instructions on website:  
<http://pels.texas.gov/recordcheck.html>
- Runs in parallel with application review, but must be completed and reviewed before approval.

# Application Review and Approval

We will process your application, and notify you along the way if information is missing or lacking.

Online Status of Application, Updates.



# Thank You

## Questions and Answers

- ▶ [pels.texas.gov](https://pels.texas.gov)
- ▶ [licensing@pels.texas.gov](mailto:licensing@pels.texas.gov)
- ▶ 1917 S Interstate 35, Austin, TX 78741
- ▶ Phone: 512-440-7723

