

THE NATIONAL COUNCIL OF EXAMINERS FOR ENGINEERING AND SURVEYING

**PRINCIPLES AND PRACTICE OF SURVEYING (PS)
EXAMINATION SPECIFICATIONS**

Effective October 2005

Knowledge	Approximate Percentage of the Examination
I. Standards and Specifications	15%
A. Federal statutes, laws, rules and regulations	
B. U.S. Public Land Survey System	
C. U.S. National Map Accuracy Standards	
D. ALTA/ACSM Surveys	
E. Geodetic control network and mapping accuracy standards	
F. FEMA	
II. Legal Principles	25%
A. Common/case law boundary principles	
B. Sequential and simultaneous conveyances	
C. U.S. Public Land Survey System	
D. Controlling elements in legal descriptions	
E. Riparian and littoral rights	
F. Property title issues (e.g., encumbrances, interpretation, deficiencies)	
G. Sovereign land rights (e.g., navigable waters, eminent domain)	
H. Prescriptive rights/adverse possession	
I. Easement rights	
J. Parol evidence	

Knowledge

**Approximate
Percentage of the
Examination**

III. Professional Survey Practices

30%

A. Research

8%

1. Public/private record sources
2. Project planning (e.g., photogrammetric, geodetic, boundary)
3. Control datums and easement rights
4. Control network accuracy standards

B. Field Procedures

8%

1. Instrument operations and usage
2. Monumentation (e.g., identification, classification, perpetuation)
3. Survey control (e.g., boundary, topographic, photogrammetric)
4. GPS operations
5. Construction staking

C. Calculations and Compilations

7%

1. Mapping methods and/or projections
2. Graphical terrain representations
3. Geoid, ellipsoid, and orthometric heights
4. State Plane Coordinate Systems
5. GPS data reduction and analysis
6. Control network calculations, analysis and adjustments
7. Determination of bearings/azimuths
8. Area/volume calculations

Knowledge	Approximate Percentage of the Examination
9. Horizontal and vertical alignment calculations	
10. Construction staking calculations (e.g., plan interpretation)	
D. Documentation	7%
1. Survey maps/plats	
2. Survey reports	
3. Descriptions	
IV. Business/Professional Practices	15%
A. Project planning (e.g., parameters, costs)	
B. Contracts	
C. Risk management (e.g., liability, safety procedures, insurance)	
D. Ethics	
E. Communications (oral, written, graphical)	
F. Quality assurance procedures	
V. Types of Surveys	15%
A. ALTA/ACSM surveys	
B. Control and geodetic surveys	
C. Construction surveys (e.g., construction calculations and staking)	
D. Boundary surveys	
E. Route and right-of-way surveys	
F. Topographic surveys by field methods	
G. Topographic surveys by photogrammetry	

Note: The examination contains 100 questions.