

**NCEES Principles and Practice of Engineering Examination
 ENVIRONMENTAL Exam Specifications**

Effective Beginning with the April 2018 Examinations

- The exam is an 8-hour open-book exam. It contains 40 multiple-choice questions in the 4-hour morning session, and 40 multiple-choice questions in the 4-hour afternoon session. Examinee works all questions.
- The exam uses both the International System of units (SI) and the US Customary System (USCS).
- The exam is developed with questions that will require a variety of approaches and methodologies, including design, analysis, and application.
- The knowledge areas specified as examples of kinds of knowledge are not exclusive or exhaustive categories.

	Approximate Number of Questions
I. Water	24
A. Principles	4
1. Hydraulics/fluid mechanics	
2. Chemistry	
3. Biology/microbiology	
4. Fate and transport	
5. Sampling and measurement methods	
6. Hydrology/hydrogeology	
7. Codes, standards, regulations, and guidelines	
B. Wastewater	8
1. Sources of pollution and minimization/prevention	
2. Treatment technologies and management	
3. Collection systems	
4. Residuals (sludge) management	
5. Water reuse	
C. Stormwater	2
1. Sources of pollution	
2. Treatment technologies and management	
3. Collection systems	
D. Potable Water	8
1. Source water quality	
2. Treatment technologies and management	
3. Distribution systems	
4. Residuals management (solid, liquid, and gas)	
E. Water Resources	2
1. Sources of pollution	
2. Watershed management and planning	
3. Source supply and protection	

II. Air	16
A. Principles	8
1. Sampling and measurement methods	
2. Codes, standards, regulations, and guidelines	
3. Chemistry	
4. Fate and transport	
5. Atmospheric science and meteorology	
B. Pollution Control	8
1. Sources of pollution	
2. Emissions characterization, calculations, and inventory	
3. Treatment and control technologies	
4. Pollution minimization and prevention	
III. Solid and Hazardous Waste	12
A. Principles	6
1. Chemistry	
2. Fate and transport	
3. Codes, standards, regulations, and guidelines	
4. Risk assessment	
5. Sampling and measurement methods	
6. Minimization, reduction, and recycling	
7. Mass and energy balance	
8. Hydrology, hydrogeology, and geology	
B. Municipal and Industrial Solid Waste	4
1. Storage, collection, and transportation systems	
2. Treatment and disposal technologies and management	
C. Hazardous, Medical, and Radioactive Waste	2
1. Storage, collection, and transportation systems	
2. Treatment and disposal technologies and management	
IV. Site Assessment and Remediation	14
A. Principles	6
1. Codes, standards, regulations, and guidelines	
2. Chemistry/biology	
3. Hydrology/hydrogeology	
4. Sampling and measurement methods	
B. Applications	8
1. Site assessment and characterization	
2. Risk assessment	
3. Fate and transport	
4. Remediation alternative identification	
5. Remediation technologies and management	
V. Environmental Health and Safety	8
A. Principles	4
1. Health and safety	
2. Security, emergency plans, and incident response procedures	
3. Codes, standards, regulations, and guidelines	
B. Applications	4
1. Industrial hygiene	
2. Exposure assessments (e.g., chemical, biological, radiation, noise)	
3. Indoor air quality	

VI. Associated Engineering Principles	6
A. Principles	2
1. Statistics	
2. Sustainability	
B. Applications	4
1. Engineering economics	
2. Project management	
3. Mass and energy balance	
4. Data management (e.g., GIS mapping, asset management, data visualization)	