

**Informatics Nursing Board Certification  
Test Content Outline - Effective Date: 10/25/2014**

There are 175 questions on this examination. Of these, 150 are scored questions and 25 are pretest questions that are not scored. Pretest questions are used to determine how well these questions will perform before they are used on the scored portion of the examination. The pretest questions cannot be distinguished from those that will be scored, so it is important for a candidate to answer all questions. A candidate's score, however, is based solely on the 150 scored questions. Performance on pretest questions does not affect a candidate's score.

This Test Content Outline identifies the areas that are included on the examination. The percentage and number of questions in each of the major categories of the scored portion of the examination are also shown.

<b>Category</b>	<b>Domains of Practice</b>	<b>No. of Questions</b>	<b>Percent</b>
I	Foundations of Practice	71	47.33%
II	System Design Life Cycle	39	26.00%
III	Data Management and Health Care Technology	40	26.67%
<b>Total</b>		<b>150</b>	<b>100%</b>

**I. Foundations of Practice (47.33%)**

A. Professional Practice

Knowledge of:

1. Nursing informatics scope and standards of practice
2. Ethical practices related to management of electronic data (e.g., collection, storage, manipulation, dissemination)
3. Healthcare industry trends (e.g., informatics, social media applications, cloud computing)

Skills in:

4. Selecting appropriate modes of communication for the situation (e.g., face-to-face, written, verbal, body language)
5. Team building (e.g., leading teams, selecting members, facilitating teams, participating in teams, assigning roles, promoting accountability)
6. Conflict management
7. Staff development (e.g., performance goal setting, performance appraisal, continuing education, competency development)

B. Models and Theories

Knowledge of:

1. Foundations of nursing informatics (e.g., computer science, information science and nursing science, cognitive science, nursing process, testing and evaluation methodologies)
2. Concepts or theories that support the practice (e.g., nursing, organizational behavior, communication, systems, adult education)
3. Models that support the practice (e.g., data, workflow, and predictive)

Skill in:

4. Facilitating quality outcomes {Quality improvement process} (e.g., FOCUS-PDCA, root cause analysis, failure mode effect analysis, QSEN, TQM, Six Sigma, LEAN)

C. Rules, Regulations, and Requirements

Knowledge of:

1. Regulatory and accreditation requirements (e.g., The Joint Commission, Centers for Medicare and Medicaid Services (CMS), Meaningful Use and HITECH (Health Information Technology for Economic and Clinical Health Act), Affordable Care Act, ADA regulations)
2. Legal issues (e.g., malpractice, scope of practice, proprietary data misuse)

3. Security, privacy, and confidentiality regulations, laws, and principles (e.g., HIPAA [Health Insurance Portability and Accountability Act], HITECH [Health Information Technology for Economic and Clinical Health])

Skill in:

4. Writing and reviewing policy and procedures (e.g., clinical documentation, downtime, computerized provider order entry [CPOE], barcode scanning, and security) for compliance and relevance to practice

## **II. System Design Life Cycle (26.00%)**

### **A. Planning and Analysis**

Knowledge of:

1. Systems planning
2. Strategic planning (e.g., short-term, long-term)

Skills in:

3. Planning education (e.g., environment, instructional design, training materials, teaching strategies, and evaluation).
4. Conducting a clinical information systems needs assessment
5. Analyzing systems (e.g. gap analysis, workflow analysis, ADA evaluation)

### **B. Designing and Building**

Knowledge of:

1. Human-Computer interaction (e.g., end user, graphical user interface [GUI], software interface consistency, visual design factors)
2. Usability (e.g., efficiency, ease of learning and use)
3. Concepts related to building systems (e.g., barcode medication administration, fetal monitoring interfacing)
4. Ergonomics (e.g., equipment selection and placement, attributes of the physical environment, and special needs accommodations)

Skills in:

5. Designing data collection methods to enable the collection of reportable data and improve patient care outcomes.
6. Designing/redesigning systems to support workflow

C. Implementing and Testing

Knowledge of:

1. Project management, (e.g., scope, timelines, project management tools, task management, team support, accountability management)
2. Change management processes (e.g., educating end-users, identifying and vetting change, prioritizing changes)

Skills in:

3. Testing (e.g., functionality, regression and integration testing, end-user acceptance)
4. Implementing systems (including conversion, migration, legacy systems)
5. Managing change effectively

D. Evaluating, Maintaining, and Supporting

Knowledge of:

1. Systems evaluation, maintenance, and support (e.g., upgrades, optimization, break/fix, enhancement recommendations, ongoing value assessment)

Skills in:

2. Maintaining and supporting systems including ongoing analysis, decommission, “sun-setting”
3. Developing tools to collect user feedback summary data
4. Measuring end user acceptance and satisfaction (e.g., help desk tickets, face to face feedback, performance reports)

**III. Data Management and Health Care Technology (26.67%)**

A. Data Standards

Knowledge of:

1. Metadata and semantic representation
2. Concepts related to standardized terminologies (e.g., NIC, NOC, NANDA, SNOMED CT, OMAHA, CCC, CPT, ICD)
3. Concepts related to technical standards (e.g., HL7, ISO)

Skills in:

4. Integrating standardized terminologies into clinical informatics practice and software build
5. Validating interoperability among clinical information systems for seamless integration of patient-related health information

B. Data Management

Knowledge of:

1. Database types, data integration, and data warehousing
2. Data archiving concepts and principles
3. Backup processes (e.g., frequency, onsite/offsite, redundancy)
4. Disaster recovery

C. Data Transformation

Knowledge of:

1. Metastructures: data, information, knowledge (including decision support), and wisdom (including evidence-based practice)
2. Data mining
3. Data representation (e.g., graphs, charts, images, reports)
4. Information retrieval (e.g., referential data bases, web surfing, literature searches)

Skills in:

5. Querying and reporting from databases (e.g., SQL, SAS)
6. Selecting appropriate data representation (e.g., graphs, charts, images, reports)

D. Hardware, Software, and Peripherals

Knowledge of:

1. Hardware (e.g., smart devices, tablets, laptops, small footprint computers, all-in-ones)
2. Clinical devices and equipment management (e.g., electronic beds, IV pumps, physiological monitoring devices, barcode scanners, and automatic dispensing cabinets)
3. Communication technologies (e.g., networks, encryption, wireless connectivity, RFID, VOIP)

Skills in:

4. Selecting device types appropriate to different clinical scenarios (e.g., mobile computing, barcode medication administration)
5. Triage hardware and software related issues for patients and clinical end users
6. Recommending hardware and software solutions, enhancements, and optimizations to support the nursing process (e.g., operating system compatibility)

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