

Test Content Outline
Effective Date: March 23, 2018

Informatics Nursing
Board Certification Examination

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.

| Category | Domains of Practice | No. of Questions | Percent |
|-----------------|--|-------------------------|----------------|
| I | Foundations of Practice | 77 | 51% |
| II | System Design Life Cycle | 42 | 28% |
| III | Data Management and Health Care Technology | 31 | 21% |
| Total | | 150 | 100% |



I. Foundations of Practice (51%)

A. Professional Practice

Knowledge of:

1. Nursing informatics scope and standards of practice (e.g., nursing informatics competencies, evolution of nursing informatics practice)
2. Informatics professional organizations for career development

Skills in:

3. Applying evidence-based practice to informatics solutions (e.g., literature searches, clinical practice guidelines, clinical protocols)
4. Staff development related to informatics (e.g., performance goal-setting, continuing education, competency development, and evaluation methodologies)

B. Methodologies and Theories

Knowledge of:

1. Foundations of nursing informatics (e.g., computer science, information science and nursing science)
2. Concepts or theories that support the practice (e.g., Data Information Knowledge Wisdom [DIKW], organizational behavior, communication, systems, learning styles, change management)

Skills in:

3. Using workflow tools that support the practice (e.g., flowcharts, value stream mapping, swim lanes, Gantt charts)
4. Process improvement activities (e.g., Lean, Six Sigma)
5. Change management processes

C. Rules, Regulations, and Requirements

Knowledge of:

1. Regulatory, reimbursement, and accreditation requirements (e.g., clinical processes involving revenue cycles, The Joint Commission, Centers for Medicare and Medicaid Services [CMS], HITECH [Health Information Technology for Economic and Clinical Health] Act)
2. Legal issues (e.g., malpractice, scope of practice, proprietary data misuse)
3. Security, privacy, and confidentiality regulations, laws, and principles (e.g., Health Insurance Portability and Accountability Act [HIPAA])

Skills in:

4. Applying ethical practices related to data and informatics solutions
5. Crafting and reviewing policy and procedures for relevance to professional practice regulations

D. Interprofessional Collaboration

Knowledge of:

1. Effective communication strategies and techniques

Skills in:

2. Selecting appropriate modes of communication for the situation (e.g., face-to-face, written, verbal, body language, electronic)
3. Team building (e.g., leading teams, selecting members, facilitating teams, participating in teams, assigning roles, promoting accountability)
4. Conflict management and resolution

II. System Design Life Cycle (28%)

A. Planning and Analysis

Knowledge of:

1. System planning
2. Strategic planning (e.g., short-term, long-term)
3. Informatics needs assessments

Skills in:

4. Planning education (e.g., setting, scheduling, materials, teaching strategies, evaluation)
5. Clinical workflow analysis
6. Coordinating project plans

B. Designing and Building

Knowledge of:

1. Concepts related to clinical content build (e.g., dashboards, templates and flowsheets)

Skills in:

2. Providing report criteria for collection of data and information
3. Designing systems to support workflow

C. Implementing and Testing

Knowledge of:

1. Systems implementation (e.g., conversion, migration from legacy systems, upgrades)

Skills in:

2. Testing (e.g., functionality, integrated testing and regression)

D. Monitoring, Maintaining, Supporting, and Evaluating

Knowledge of:

1. Systems maintenance (e.g., enhancements, break/fix)
2. User experience (e.g., usability, human factors, Human-Computer Interaction [HCI])

Skills in:

3. Supporting end-users (e.g., optimization, user manual, Help Desk tickets)
4. Evaluating user adoption and satisfaction (e.g., face-to-face feedback, surveys)
5. Monitoring system performance (e.g., performance reports)

III. Data Management and Health Care Technology (21%)

A. Data Standards

Knowledge of:

1. Metadata and semantic representation
2. Standardized nomenclatures
3. Concepts related to technical standards (e.g., HL7, ISO, Fast Healthcare Interoperability Resources [FHIR])

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. Downtime and disaster recovery
5. Patient-generated data (e.g., patient portal)

Skills in:

6. Guiding end-users, IT, and leadership during downtime and disaster recovery

C. Data Analysis, Application, and Transformation

Knowledge of:

1. Metastructures: data, information, knowledge (including decision support), and wisdom (including evidence-based practice)
2. Querying and reporting from databases (e.g., Structured Query Language [SQL])

Skills in:

3. Data analytics (e.g., Big Data)
4. Data representation (e.g., graphs, charts, images, reports, dashboards)
5. Patient safety, quality and risk management-related activities (e.g., core measures, patient satisfaction surveys, root cause analysis, close call events, Failure Mode Effect Analysis [FMEA])

D. Hardware, Software, and Peripherals

Knowledge of:

1. Hardware device strategy, including selection of device types appropriate to different clinical scenarios
2. Health care technology trends (e.g., Big Data, mobile device strategies, wearable devices, telemedicine, social media applications, Internet of Things)

Skills in:

3. Clinical devices and equipment management (e.g., electronic beds, IV pumps, physiological monitoring devices, barcode scanners, and automatic dispensing cabinets, biometrics)
4. Communication technologies (e.g., smart devices, networks, encryption, wireless connectivity, Radio-Frequency Identification [RFID], Voice over Internet Protocol [VoIP], tokens)
5. Troubleshooting 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
7. Applying technology to clinical simulation scenarios (e.g., workflow, education, professional development)

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