# Healthcare and Technology Environments – 27%

**A. Healthcare Environment**
- A.1. Recognize basic characteristics, interrelationships and services of different types of healthcare organizations (e.g., hospitals, clinics, physician practices, ambulatory centers, community health organizations, healthcare payers, regulators, research and academic)
- A.2. Identify and differentiate among major clinical and business departments and functions found in healthcare organizations.
- A.3. Differentiate basic roles of healthcare information and management systems professionals
- A.4. Identify and differentiate roles of governmental, regulatory, professional and accreditation agencies related to healthcare
- A.5. Recognize trends in healthcare technology (e.g., telemedicine, patient portals, wearable devices, population health)

**B. Technology Environment**
- B.1. Differentiate characteristics of applications (e.g., clinical, administrative, financial) and clinical technologies commonly used in healthcare
- B.2. Recognize basic characteristics of the information and communication technologies that support the healthcare environment (e.g., diagnostic imaging, data warehouses, data models, infrastructure, servers, web services)

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# Clinical Informatics – 26%

**A. Clinical Informatics**
- A.1. Identify basic clinical vocabulary/terms frequently represented in healthcare informatics (e.g., dosage frequency, dosage routes, body systems)
- A.2. Identify basic healthcare IT vocabulary/terms frequently represented in healthcare informatics (e.g., LAN, SMS, VPN)
- A.3. Identify basic clinical metrics frequently represented in informatics (e.g., average daily census, turnaround time, adherence, barcode medication administration)
- A.4. Identify and support opportunities to optimize clinical effectiveness and efficiencies
- A.5. Understand various data visualization techniques (e.g., tables, graphs, charts)
- A.6. Maintain clinical content and decision-support tools

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# Healthcare Information and Systems Management - 33%
A. Analysis
A.1. Identify and differentiate fundamental concepts of systems development (e.g., systems development lifecycle or SDLC, rapid application development, extreme programming)
A.2. Identify and differentiate fundamental IT project management methodologies (e.g., Agile, waterfall) and components (e.g., needs analysis, gap analysis, defining and prioritizing requirements)
A.3. Identify and differentiate fundamental concepts of process improvement (e.g., DMAIC, PDCA)
A.4. Describe business and clinical processes utilizing standard visualization tools such as Gaant charts, fishbone, swimlane
A.5. Conduct basic data analysis and interpretation
A.6. Understand the basic elements of common business documents such as RFPs, RFIs, proposals, SLAs, change requests, NDAs, etc.

B. Design
B.1. Identify functional requirements of software, hardware and network solutions
B.2. Develop the documentation of compliance with applicable industry, regulatory and organizational standards
B.3. Identify basic business continuity planning concepts (e.g., RPO, RTO, BCA, scheduled and unscheduled downtime procedures)
B.4. Collect and compile information to assist in evaluation of existing and emerging technologies
B.5. Understand basic data management concepts (e.g., data types, metadata, data dictionary, field formats)

C. Selection, Implementation, Support and Maintenance
C.1. Facilitate solution selection activities (e.g., evaluating functional requirements vs proposals, demonstrations, site visits, reference checks)
C.2. Understand characteristics of various training and support methods (e.g., computer-based learning, classroom training, train the trainer, at-the-elbow support from superusers)
C.3. Understand the interrelationships between scope, schedule, budget, and quality for solution implementations
C.4. Maintain healthcare information systems (e.g., operate, upgrade)
C.5. Gather, input and help analyze data for problems and trends (e.g., error reports, help desk logs, performance metrics, network monitoring)

D. Testing and Evaluation
D.1. Identify and differentiate accepted testing methodologies (e.g., unit test, integrated test, stress test, acceptance test)
D.2. Identify and differentiate internal controls to protect resources and ensure availability and integrity during testing (e.g., security audits, versioning control, change control)
D.3. Verify deliverables against contractual terms or design specifications
D.4. Gather and compile data to support that expected outcomes have been realized (e.g., return on investment, benchmarks, user satisfaction)

E. Privacy and Security
E.1. Describe the organizational policies and procedures to ensure confidentiality, privacy, security, availability, and integrity of data
E.2. Use specific procedures to identify, escalate, and mitigate potential privacy/security risks and breaches
### E. Administer User Access Controls

E.3. Administer user access controls according to established policies and procedures

E.4. Audit physical, technical, and administrative controls to ensure safeguards are in place to protect assets (e.g., servers secured, unattended computers, two-factor authentication)

E.5. Identify and differentiate organizational roles (e.g., information security, physical security, compliance) responsible for managing vulnerabilities

E.6. Maintain data management controls (e.g., data ownership, criticality, security levels, protection controls, retention and destruction requirements, access controls)

### Management and Leadership – 14%

#### A. Management and Leadership

A.1. Assess the organizational environment (e.g., corporate culture, values and drivers)

A.2. Understand components of an IT strategic plan (e.g., process maturity and growth, gap analysis, quality improvement, organizational alignment, roles and responsibilities, performance measurement)

A.3. Gather and compile metrics to monitor and assess specific organizational performance indicators

A.4. Monitor, assess and report on key performance indicators of systems effectiveness

A.5. Comply with legal and regulatory standards

A.6. Understand and comply with the organization's ethical business principles

A.7. Prepare and deliver business communications (e.g., presentations, reports, project plans)

A.8. Maintain awareness of emerging industry trends

A.9. Identify and recommend strategies to mitigate organizational risk

A.10. Maintain effective and ethical working relationships with internal and external stakeholders (e.g., clinicians, vendors, partners)

A.11. Identify and provide data to support recommendations for decision makers

A.12. Understand and support organizational change management processes

A.13. Understand individual and team roles, responsibilities and job descriptions