Information Technology Competency Model of Core Learning Outcomes and Assessment

An ability to demonstrate core IT competency in client computing and user support

1	Carry out trouble-shooting strategies for resolving an identified end-user IT problem.
2	Differentiate among various operating systems.
3	Explain the process of authentication and authorization between end-user devices and computing network resources.
4	Identify a variety of assistive or adaptive technologies and universal design considerations.
5	Identify basic components of an end-user IT system.
6	Implement a hardware and software configuration responsive to an identified scenario.
7	Summarize life-cycle strategies for replacement, reuse, recycling IT technology and resources.
8	Summarize strategies to support or train users with their IT resources.
9	Use a variety of practices for making end-user IT systems secure.

An ability to demonstrate core IT competency in database and information management

10	Describe the data management activities associated with the data lifecycle.
11	Diagram a database design based on an identified scenario.
12	Differentiate between public and private data.
13	Discuss applications of data analytics.
14	Discuss issues relevant to dealing with very large data sets, both structured and unstructured.
15	Identify database administration tasks.
16	Produce simple database queries.
17	Use data analytics to support decision making for a given scenario.

An ability to demonstrate core IT competency in digital media and immersive technology

18	Differentiate among a variety of technology-based sensory interactions.
19	Differentiate among data types, data transfer protocols and file characteristics specific to the targeted use.
20	Illustrate the activities of a digital media design process.
21	Implement communication principles into digital media design.

An ability to demonstrate core IT competency in networking and convergence

22	Carry out basic computer network troubleshooting techniques.
23	Describe the layers, protocols and components of the OSI model.
24	Diagram the components of an integrated IT system.
25	Differentiate among various computer networking models.
26	Differentiate among various techniques for making a computer network secure.
27	Summarize the flow of data through a computer network scenario.

An ability to demonstrate core IT competency in programming and application development

28	Demonstrate best practices for designing end-user computing interfaces.
29	Demonstrate the techniques of defensive programming and secure coding.
30	Diagram the phases of the Secure Software Development Lifecycle.
31	Discuss software development methodologies.
32	Summarize the differences among various programming languages.
33	Use a programming or a scripting language to share data across an integrated IT system.
34	Use a programming or a scripting language to solve a problem.

An ability to demonstrate core IT competency in servers, storage and virtualization

35	Differentiate among strategies for business continuity provisioning of IT resources at the enterprise level.
36	Discuss data governance and its implications for users as well as IT professionals.
37	Identify a variety of enterprise-level digital storage technologies.
38	Implement an application of virtualization.
39	Modify a system to improve data confidentiality or regulatory compliance.
40	Summarize the implications of various cloud computing models.
41	Summarize the security implications and risks for distributed IT systems.

An ability to function effectively as a member of a diverse team to accomplish common goals

42	Use communication, negotiation, and collaboration skills as a member of a diverse team.

An ability to read and interpret technical information, as well as listen effectively to, communicate orally with, and write clearly for a wide range of audiences

43	Describe the attitudes, knowledge and abilities associated with quality customer service.
44	Produce technical documentation responsive to an identified computing scenario.
45	Use documentation or a knowledge base to resolve a technical challenge in an identified computing scenario

An ability to engage in continuous learning as well as research and assess new ideas and information to provide the capabilities for lifelong learning

46	Discuss significant trends and emerging technologies and their impact on our global society.

An ability to exhibit professional, legal, and ethical behavior

47	Demonstrate professional behavior in response to an ethically-challenging scenario in computing.
48	Summarize the tenets of ethics and professional behavior promoted by international computing societies.

An ability to demonstrate business awareness and workplace effectiveness

49	Describe IT procurement processes for goods and services.
50	Summarize the role of IT in supporting the mission and goals of an organization.