Information Technology Program Objectives

Client Computing and Support

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

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

Database and Information Management

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

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

Digital Media and Immersive Technology

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

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

Networking and Convergence

An ability to demonstrate core IT competency in networking and convergence.

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

Programming and Application Development

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

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

Servers, Storage, and Virtualization

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

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

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

- **Learning Outcomes**
  IT. 42. Use communication, negotiation, and collaboration skills as a member of a diverse team.

## Communication

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.

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

## Lifelong Learning

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

- **Learning Outcomes**
  IT. 46. Discuss significant trends and emerging technologies and their impact on global society.

## Professional

An ability to exhibit professional, legal, and ethical behavior.

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

## Business

An ability to demonstrate business awareness and workplace effectiveness.

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

**Association for Computing Machinery**