

ACM Committee for Computing Education in Community Colleges
Associate-Degree IT Core Competencies
 Matrix of Learning Outcomes

REVIEWERS DRAFT: FEEDBACK DUE APRIL 1, VIA CAPSPACE.ORG

The ACM CCECC, at the direction of the ACM Education Board, convened a curricular development task force to define the framework of learning outcomes which would constitute the core IT competencies common to all associate-degree IT programs. That work is detailed below, ready for public review and comment.

BLOOM'S COGNITION LEVEL:	 REMEMBERING	 UNDERSTANDING	 APPLYING
--------------------------	--	--	--

CONCEPTUAL DOMAIN	TECHNICAL DOMAIN					
	Programming & Application Development	Database & Information Management	Servers, Storage & Virtualization	Networking	End-user Computing & Support	Digital Media
Design, Development & Testing	<ul style="list-style-type: none"> Summarize the purposes of programming languages. Discuss software development methodologies. Use a programming language to solve a problem. Diagram the phases of the Secure Software Development Lifecycle. 	<ul style="list-style-type: none"> Identify database administration tasks. Diagram a database design based on an identified business scenario. Produce simple database queries. 	<ul style="list-style-type: none"> Discuss data governance and its implications for users as well as IT professionals. Summarize the implications of various cloud computing models. Describe the concepts and applications of virtualization. 	<ul style="list-style-type: none"> Describe the layers, protocols and components of the OSI model. Describe basic network troubleshooting strategies. 	<ul style="list-style-type: none"> Differentiate between troubleshooting strategies for resolving an identified end-user IT problem. Identify basic components of an end-user IT system. 	<ul style="list-style-type: none"> Implement communication principles into digital media design. Diagram the stages of the Technological Design Process.

	Programming & Application Development	Database & Information Management	Servers, Storage & Virtualization	Networking	End-user Computing & Support	Digital Media
Human-centered Computing	<p>Describe best practices for programming end-user interfaces.</p>	<p>Differentiate between public and private data.</p>			<p>Differentiate between various end-user operating systems.</p> <p>Implement a hardware and software configuration responsive to an identified end-user scenario.</p>	<p>Describe a variety of technology-based sensory interactions.</p>
Security and Privacy	<p>Demonstrate defensive programming and secure coding techniques.</p>	<p>Describe the data management activities associated with the data lifecycle.</p>	<p>Summarize security implications and risks for distributed IT systems.</p> <p>Discuss encryption and authentication technologies to ensure confidentiality of data & regulatory compliance.</p>	<p>Differentiate between various techniques for securing a network.</p>	<p>Explain the authentication process between end-user devices and network resources.</p> <p>Describe best practices for securing end-user IT systems.</p>	
Systems Integration & Solution Deployment	<p>Use a scripting language to share data across an integrated IT system.</p>	<p>Describe applications of business analytics.</p>	<p>Identify a variety of enterprise-level storage technologies.</p> <p>Differentiate between strategies for business continuity provisioning at the enterprise level.</p>	<p>Diagram the components of an integrated IT system.</p> <p>Describe various networking architectures.</p>	<p>Summarize the strategies for orienting users to changes in the IT environment.</p> <p>Classify life-cycle strategies for replacement, reuse, recycling of end-user technologies.</p>	<p>Differentiate among data transfer protocols and file characteristics specific to end-user devices.</p>