

Software Development KSAs for Curriculum Alignment

10. Secure Coding Principles

	KSA Description	Knowledge, Skill, or Ability?	Bloom's Taxonomy Level?	Cross-cutting KSAs	Course Number/Name	Learning Outcome
a	Identify common coding errors that lead to insecure programs (e.g., buffer overflows, memory leaks, malicious code) and apply strategies for avoiding such errors.	Skill	3	Cybersecurity 11d		
b	Knowledge of principles of cybersecurity.	Knowledge	2			
c	Understanding of secure coding principles.	Knowledge	3			
d	Apply the principles of least privilege, defensive programming, and fail-safe defaults.	Ability	3	Cybersecurity 11e		
e	Ability to determine what information can and more importantly can not be logged.	Knowledge	2			
f	Write code with logging capabilities.	Skill	2	Cybersecurity 11f		
g	Awareness of Defensive programming.	Knowledge	1			
h	Understand basics of securing web apps - SQL Injection and other input validation.	Knowledge	3	Cybersecurity 11i		