

Old Curriculum		New Curriculum	Cumulative Change
<p><b>5% - Scheduling</b></p> <ul style="list-style-type: none"> <li>• Use label selectors to schedule Pods.</li> <li>• Understand the role of DaemonSets.</li> <li>• Understand how resource limits can affect Pod scheduling.</li> <li>• Understand how to run multiple schedulers and how to configure Pods to use them.</li> <li>• Manually schedule a pod without a scheduler.</li> <li>• Display scheduler events.</li> <li>• Know how to configure the Kubernetes scheduler.</li> </ul>	<p><b>8% - Application Lifecycle Management</b></p> <ul style="list-style-type: none"> <li>• Understand Deployments and how to perform rolling updates and rollbacks.</li> <li>• Know various ways to configure applications.</li> <li>• Know how to scale applications.</li> <li>• Understand the primitives necessary to create a self-healing application.</li> </ul>	<p><b>15% - Workloads &amp; Scheduling</b></p> <ul style="list-style-type: none"> <li>• Understand deployments and how to perform rolling update and rollbacks</li> <li>• Use ConfigMaps and Secrets to configure applications</li> <li>• Know how to scale applications</li> <li>• Understand the primitives used to create robust, self-healing, application deployments</li> <li>• Understand how resource limits can affect Pod scheduling</li> <li>• Awareness of manifest management and common templating tools</li> </ul>	+2%
<p><b>5%- Logging/Monitoring</b></p> <ul style="list-style-type: none"> <li>• Understand how to monitor all cluster components.</li> <li>• Understand how to monitor applications.</li> <li>• Manage cluster component logs.</li> <li>• Manage application logs.</li> </ul>	<p><b>10% - Troubleshooting</b></p> <ul style="list-style-type: none"> <li>• Troubleshoot application failure</li> <li>• Troubleshoot control plane failure.</li> <li>• Troubleshoot worker node failure.</li> <li>• Troubleshoot networking.</li> </ul>	<p><b>30% - Troubleshooting</b></p> <ul style="list-style-type: none"> <li>• Evaluate cluster and node logging</li> <li>• Understand how to monitor applications</li> <li>• Manage container stdout &amp; stderr logs</li> <li>• Troubleshoot application failure</li> <li>• Troubleshoot cluster component failure</li> <li>• Troubleshoot networking</li> </ul>	15% + 2% = 17%

<p><b>11% - Cluster Maintenance</b></p> <ul style="list-style-type: none"> <li>• Understand Kubernetes cluster upgrade process.</li> <li>• Facilitate operating system upgrades.</li> <li>• Implement backup and restore methodologies.</li> </ul>	<p><b>12% - Installation, Configuration &amp; Validation</b></p> <ul style="list-style-type: none"> <li>• Design a Kubernetes cluster.</li> <li>• Install Kubernetes masters and nodes.</li> <li>• Configure secure cluster communications.</li> <li>• Configure a Highly-Available Kubernetes cluster.</li> <li>• Know where to get the Kubernetes release binaries.</li> <li>• Provision underlying infrastructure to deploy a Kubernetes cluster.</li> <li>• Choose a network solution.</li> <li>• Choose your Kubernetes infrastructure configuration</li> <li>• Run end-to-end tests on your cluster</li> <li>• Analyse end-to-end tests results</li> <li>• Run Node end-to-end tests.</li> <li>• Install and use kubeadm to install, configure, and manage Kubernetes clusters</li> </ul>	<p><b>25% - Cluster Architecture, Installation &amp; Configuration</b></p> <ul style="list-style-type: none"> <li>• Manage role based access control (RBAC)</li> <li>• Use Kubeadm to install a basic cluster</li> <li>• Manage a highly-available Kubernetes cluster</li> <li>• Provision underlying infrastructure to deploy a Kubernetes cluster</li> <li>• Perform a version upgrade on a Kubernetes cluster using Kubeadm</li> <li>• Implement etcd backup and restore</li> </ul>	<p>17% + 2% = 19%</p>
--	---	--	-----------------------

<b>7% - Storage</b>		<b>10% - Storage</b>	19% + 3% = 22%
<ul style="list-style-type: none"> <li>• Understand persistent volumes and know how to create them.</li> <li>• Understand access modes for volumes.</li> <li>• Understand persistent volume claims primitive.</li> <li>• Understand Kubernetes storage objects.</li> <li>• Know how to configure applications with persistent storage.</li> </ul>		<ul style="list-style-type: none"> <li>• Understand storage classes, persistent volumes</li> <li>• Understand volume mode, access modes and reclaim policies for volumes</li> <li>• Understand persistent volume claims primitive</li> <li>• Know how to configure applications with persistent storage</li> </ul>	
<b>11% - Networking</b>	<b>19% - Core Concepts</b>	<b>20% - Services &amp; Networking</b>	22% - 10% = 12%
<ul style="list-style-type: none"> <li>• Understand the networking configuration on the cluster nodes.</li> <li>• Understand Pod networking concepts.</li> <li>• Understand service networking</li> <li>• Deploy and configure network load balancer.</li> <li>• Know how to use Ingress rules.</li> <li>• Know how to configure and use the cluster DNS.</li> <li>• Understand CNI.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the Kubernetes API primitives.</li> <li>• Understand the Kubernetes cluster architecture.</li> <li>• Understand Services and other network primitives.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand host networking configuration on the cluster nodes</li> <li>• Understand connectivity between Pods</li> <li>• Understand ClusterIP, NodePort, LoadBalancer service types and endpoints</li> <li>• Know how to use Ingress controllers and Ingress resources</li> <li>• Know how to configure and use CoreDNS</li> <li>• Choose an appropriate container network interface plugin</li> </ul>	

12% - Security	Eliminated	
<ul style="list-style-type: none"> <li>• Know how to configure authentication and authorization.</li> <li>• Understand Kubernetes security primitives.</li> <li>• Know to configure network policies.</li> <li>• Create and manage TLS certificates for cluster components.</li> <li>• Work with images securely.</li> <li>• Define security contexts.</li> <li>• Secure persistent key value store.</li> </ul>	<p>With RBAC moved to <i>Cluster Architecture, Installation &amp; Configuration</i></p> <p>TLS certificates will be covered under <i>Troubleshooting</i></p> <p>Network policies must be covered under <i>Services &amp; Networking</i></p>	12% -12% = 0%

