

## 70-489/71-489 Skills Measured

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### Design and Implement Search (15-20 percent)

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| <input type="checkbox"/> | Query Search.                 | This objective may include but is not limited to: build search queries using FQL (FAST Query Language) and KQL (Keyword Query Language), execute search queries using client-side object model (CSOM), Web Services, and REST |
| <input type="checkbox"/> | Customize search results.     | This objective may include but is not limited to: create custom result sources, create display templates, create result types, create custom refiner definitions, implement query rules                                       |
| <input type="checkbox"/> | Customize content processing. | This objective may include but is not limited to: feed external content types, implement content processing extensions (entity extraction), configure out-of-the box content processing, create content mappings              |
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### Implement BCS (Business Connectivity Services) (10-15 percent)

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|--------------------------|---|---|
| <input type="checkbox"/> | Create a model.                             | This objective may include but is not limited to: optimize queries for performance and throttling, use naming conventions, use batching, create filters, implement methods, create associations               |
| <input type="checkbox"/> | Create external content types.              | This objective may include but is not limited to: use SQL data sources, use WCF (Windows Communication Foundation) Web Services, use oData, use .NET connector  |
| <input type="checkbox"/> | Implement authorization and authentication. | This objective may include but is not limited to: use pass-through, use BCS Identity and User Identity, use a custom model  |
| <input type="checkbox"/> | Create custom connectors.                   | This objective may include but is not limited to: implement methods (including Search), implement security trimming, implement configuration properties, implement caching, implement external event receiver |
| <input type="checkbox"/> | Access BCS data.                            | This objective may include but is not limited to: use BCS Web Parts, use BCS data in workflows, use BCS CSOM, use the server-side object model, use BCS REST  |
| <input type="checkbox"/> | Implement client-side BCS.                  | This objective may include but is not limited to: use caching, use Microsoft Office apps, use Microsoft Visual Studio Tools for Office, use SQL replication, implement authorization and authentication       |
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### Implement User Profiles and Customize Social Workload (15-20 percent)

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| <input type="checkbox"/> | Manage user profile properties. | This objective may include but is not limited to: create and update user profile properties, update privacy filters, map properties to external data, use managed metadata term sets, update profile picture |
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| <input type="checkbox"/> | Manage feeds.             | This objective may include but is not limited to: use CSOM to follow documents, people, sites, get feeds, create posts, and manage Like, reply, mention, tag, link, add pictures |
| <input type="checkbox"/> | Access user profile data. | This objective may include but is not limited to: use CSOM, use the object model, use REST, use Web Services   |

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**Implement ECM (Enterprise Content Management) and WCM (Web Content Management) (15-20 percent)**

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| <input type="checkbox"/> | Implement a multi-lingual site.             | This objective may include but is not limited to: submit a page or batch of pages for translation, publish pages, create source and target labels, create channels, implement multi-language site navigation         |
| <input type="checkbox"/> | Implement E-discovery.                      | This objective may include but is not limited to: create a new hold, integrate with Microsoft Exchange Web Services, specify content sources and Search criteria, export discovery sets, manage permissions for hold |
| <input type="checkbox"/> | Implement SEO (Search Engine Optimization). | This objective may include but is not limited to: create a site map, customize a site map, maintain SEO configuration properties, maintain robots.txt file, maintain SEO properties on term                          |
| <input type="checkbox"/> | Implement content management.               | This objective may include but is not limited to: create information management policies, create content organizer rules, create document sets, create document ID providers   |
| <input type="checkbox"/> | Implement a publishing page.                | This objective may include but is not limited to: add field controls to a page layout, add web parts to a page layout, create a publishing page layout, inherit content types  |

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**Design for Performance and Troubleshooting (15-20 percent)**

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| <input type="checkbox"/> | Design solutions to handle a high-traffic site.          | This objective may include but is not limited to: combine images, implement caching, minimize number of queries, optimize JavaScript loading, use CDNs (Content Delivery Networks), create a scalable aggregator         |
| <input type="checkbox"/> | Design client applications for performance.              | This objective may include but is not limited to: leverage health score rules, optimize number of batch server requests, use client-side cache, minimize amount of data requested  |
| <input type="checkbox"/> | Monitor and mitigate performance and scalability issues. | This objective may include but is not limited to: diagnose application stability issues, debug the server side and app code on the client side, create application diagnostics, measure and test application performance |

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**Implement Managed Metadata Service (MMS) (15-20 percent)**

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<input type="checkbox"/>	Manage term sets.	This objective may include but is not limited to: import and export term sets, create multi-lingual labels, re-use terms, manage term properties, perform translation, create groups and assign permissions
<input type="checkbox"/>	Create solutions by using MMS.	This objective may include but is not limited to: use Profile Pages, use the Product Catalog, use cross-site publishing, integrate with Search, implement metadata-driven navigation
<input type="checkbox"/>	Use an MMS API.	This objective may include but is not limited to: use CSOM in client applications, use REST in client applications, use managed fields, use server-side object model

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