

This course combines topics from the following courses (any items marked with a \* will be covered if time allows).

Topics taken from our **INTRODUCTION TO SQL** course

<p><b>Using SQL Server</b></p> <ul style="list-style-type: none"> <li>• SQL Server Management Studio</li> <li>• Controlling windows</li> <li>• Using Object Explorer</li> </ul>	<p><b>Setting criteria using WHERE</b></p> <ul style="list-style-type: none"> <li>• Wildcards (% and _)</li> <li>• Setting criteria for dates</li> <li>• Coping with nulls</li> </ul>	<p><b>Aggregation and grouping</b></p> <ul style="list-style-type: none"> <li>• SUM, AVG, MIN, MAX</li> <li>• Various ways to count</li> <li>• Grouping by fields</li> <li>• Using HAVING to filter results</li> </ul>
<p><b>Creating databases - overview</b></p> <ul style="list-style-type: none"> <li>• Designing databases</li> <li>• Primary keys</li> </ul>	<p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>• Calculated columns</li> <li>• Using aliases</li> <li>• String functions and concatenation</li> </ul>	<p><b>Views</b></p> <ul style="list-style-type: none"> <li>• The view designer</li> <li>• Limitations of the designer</li> <li>• Scripting views</li> </ul>
<p><b>Working with tables</b></p> <ul style="list-style-type: none"> <li>• Creating tables</li> <li>• Allowing nulls or not</li> <li>• Identity fields</li> <li>• Creating relationships</li> </ul>	<p><b>Calculations using dates</b></p> <ul style="list-style-type: none"> <li>• GetDate</li> <li>• Converting dates</li> <li>• Useful date functions</li> </ul>	<p><b>Subqueries</b></p> <ul style="list-style-type: none"> <li>• The concept of a subquery</li> <li>• Syntax of subqueries</li> <li>• Using subqueries in a query</li> </ul>
<p><b>Simple Queries</b></p> <ul style="list-style-type: none"> <li>• Creating queries</li> <li>• Comments</li> <li>• Indentation and case</li> </ul>	<p><b>Basic joins</b></p> <ul style="list-style-type: none"> <li>• Inner joins</li> <li>• Table aliases</li> <li>• Left and right outer joins</li> </ul>	<p><b>Derived tables and CTEs</b></p> <ul style="list-style-type: none"> <li>• Using derived tables</li> <li>• Common Table Expressions (CTEs)</li> <li>• Multiple CTEs in a single query</li> </ul>

Topics taken from our **ADVANCED SQL** course

<p><b>Stored procedures</b></p> <ul style="list-style-type: none"> <li>• Creating stored procedures</li> <li>• Executing stored procedures</li> <li>• System stored procedures</li> </ul> <p><b>Variables</b></p> <ul style="list-style-type: none"> <li>• Declaring variables</li> <li>• SET versus SELECT</li> <li>• Tricks with variables</li> <li>• So-called global variables</li> </ul> <p><b>Parameters and return values</b></p> <ul style="list-style-type: none"> <li>• Passing parameters</li> <li>• Default values / WHERE clauses</li> <li>• Output parameters</li> <li>• Using RETURN</li> </ul> <p><b>Scalar functions (*)</b></p> <ul style="list-style-type: none"> <li>• What they are</li> <li>• Writing user-defined functions</li> <li>• Worked examples</li> <li>• Pros and cons of scalar functions</li> </ul> <p><b>Testing conditions</b></p> <ul style="list-style-type: none"> <li>• IF / ELSE statement</li> <li>• Using CASE where possible</li> </ul> <p><b>Looping</b></p> <ul style="list-style-type: none"> <li>• Syntax of WHILE</li> <li>• Breaking out of a loop</li> </ul>	<p><b>Error-handling (*)</b></p> <ul style="list-style-type: none"> <li>• Using TRY / CATCH</li> <li>• System error functions</li> <li>• Custom error messages</li> </ul> <p><b>Deleting using SQL</b></p> <ul style="list-style-type: none"> <li>• Ways to drop tables</li> <li>• DELETE versus TRUNCATE</li> </ul> <p><b>Updating data in SQL</b></p> <ul style="list-style-type: none"> <li>• The UPDATE statement</li> <li>• Updating using joins</li> </ul> <p><b>Inserting data</b></p> <ul style="list-style-type: none"> <li>• Making tables (SELECT INTO)</li> <li>• Appending data (INSERT INTO)</li> <li>• Inserting individual rows</li> </ul> <p><b>Creating tables</b></p> <ul style="list-style-type: none"> <li>• Creating tables in SQL</li> <li>• Primary keys and indexes</li> <li>• Adding relationships</li> </ul> <p><b>Transactions (*)</b></p> <ul style="list-style-type: none"> <li>• Beginning a transaction</li> <li>• Committing / rolling back</li> </ul>	<p><b>Temporary tables and table variables</b></p> <ul style="list-style-type: none"> <li>• Scope (local versus global)</li> <li>• Using temporary tables</li> <li>• Creating table variables</li> <li>• Pros and cons of each approach</li> </ul> <p><b>Table-valued functions (*)</b></p> <ul style="list-style-type: none"> <li>• In-line table-valued functions</li> <li>• Multi-statement table-valued functions</li> </ul> <p><b>Dynamic SQL (*)</b></p> <ul style="list-style-type: none"> <li>• Building up dynamic SQL</li> <li>• Executing dynamic SQL</li> <li>• Disadvantages of dynamic SQL</li> </ul> <p><b>Pivots (*)</b></p> <ul style="list-style-type: none"> <li>• Assembling data for pivoting</li> <li>• Using PIVOT</li> <li>• Dynamic column headers</li> </ul> <p><b>Triggers (*)</b></p> <ul style="list-style-type: none"> <li>• Insert, update and delete triggers</li> <li>• Using generated tables (eg INSERTED)</li> <li>• Using INSTEAD OF</li> </ul>
---	---	--

There will be no more than 6 people on the course. All of our public (scheduled) courses include lunch at a local restaurant. For more information, see [www.wiseowl.co.uk/courses/fast-track-sql.htm](http://www.wiseowl.co.uk/courses/fast-track-sql.htm).