



This course covers the following topics (any items marked with a \* will be covered if time allows):

<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>• Mult-statement table-valued functions</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> <p><b>Debugging (*)</b></p> <ul style="list-style-type: none"><li>• Debugging queries and procedures</li><li>• Setting breakpoints</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>
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Maximum 6 people per course. Scheduled classroom courses include lunch at a local restaurant; you can see how our online training works [here](https://www.wiseowl.co.uk/). For more information, see <https://www.wiseowl.co.uk/>.