



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

## Stored procedures

- Creating stored procedures
- Executing stored procedures
- System stored procedures

## Variables

- Declaring variables
- SET versus SELECT
- Tricks with variables
- So-called global variables

## Parameters and return values

- Passing parameters
- Default values / WHERE clauses
- Output parameters
- Using RETURN

## Scalar functions

- What they are
- Writing user-defined functions
- Worked examples
- Pros and cons of scalar functions

## Testing conditions

- IF / ELSE statement
- Using CASE where possible

## Looping

- Syntax of WHILE
- Breaking out of a loop

## Error-handling

- Using TRY / CATCH
- System error functions
- Custom error messages

## Deleting using SQL

- Ways to drop tables
- DELETE versus TRUNCATE

## Updating data in SQL

- The UPDATE statement
- Updating using joins

## Inserting data

- Making tables (SELECT INTO)
- Appending data (INSERT INTO)
- Inserting individual rows

## Creating tables

- Creating tables in SQL
- Primary keys and indexes
- Adding relationships

## Transactions

- Beginning a transaction
- Committing / rolling back

## Temporary tables and table variables

- Scope (local versus global)
- Using temporary tables
- Creating table variables
- Pros and cons of each approach

## Table-valued functions (\*)

- In-line table-valued functions
- Multi-statement table-valued functions

## Derived tables and CTEs

- Using derived tables
- Common Table Expressions (CTEs)
- Multiple CTEs in a single query

## Debugging (\*)

- Debugging queries and procedures
- Setting breakpoints

## Dynamic SQL (\*)

- Building up dynamic SQL
- Executing dynamic SQL
- Disadvantages of dynamic SQL

## Pivots (\*)

- Assembling data for pivoting
- Using PIVOT
- Dynamic column headers

## Triggers (\*)

- Insert, update and delete triggers
- Using generated tables (eg INSERTED)
- Using INSTEAD OF

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/>.