After completing the Technical Skills Course, you should be able to perform the following:

**Actuarial Concepts applied using technical skills**
- Use lookup functions against Pricing tables
- Hit a Target Loss Ratio with GOALSEEK
- Perform Data Analysis with Excel Pivot Tables, Access queries, SQL queries, and SAS queries
- Apply Conditional Tail Expectation with SQL in application to real earthquake data
- Develop an Inversion Simulation routine with Excel VBA to analyze spread of risk
- Predict survival using regression models within SAS
- Build a financial model in Excel and perform sensitivity analysis using data tables

**Excel**
- Perform data analysis with basic functions and conditional functions
- Perform data analysis with Pivot Tables
- Communicate key results with charts
- Learn to quickly look up values from a table
- Learn forecasting techniques with Goal seek and Solver
- Ability to use Fixed Cells and Named Ranges
- Learn to look up values efficiently with INDEXMATCH
- Create dynamic charts that get updated automatically when new values are entered
- Summarize totals from numerous tabs onto one single tab
- Calculate weighted averages
- Learn to parse data and store data into meaningful tables
- Apply logical functions to make decisions based on your data
- Learn to control user inputs and how to handle VLOOKUP errors
- Visualize patterns in your data fast with Conditional Formatting
- Make your data easily scrollable and learn how to audit complicated formulas
Excel VBA

- Learn how to setup your workbook to enable VBA
- Record a macro using the Macro Recorder
- Program your own code to create your own routines
- Declare variables and learn how to assign values to a specific cell
- Learn how to use normal Excel Functions within your VBA code
- Using IF THEN ELSE within VBA
- Write a loop to perform simulations
- Debug your VBA code when it is not working correctly
- Writing your own Function and using it with Excel
- Engage the user with Buttons, MsgBox, and InputBox
- Turn off Screen Updating
- Apply best practices for coding including commenting and indenting

MS Access

- Import tables into MS Access
- View tables and look at the metadata
- Learn to filter a table to create a new table
- Create queries and run those queries
- Group data to find the sum, count, average, max, and min of a dataset
- Use a query to group data and filter using the WHERE clause to calculate conditional sums, averages, counts
- Merge tables with left, right, and inner joins
- Run a pivot table in Excel where the data lives in MS Access
- Use query criteria wildcards such as LIKE, IS NULL, *
- Create Pivot Charts views off query results
The Infinite Actuary’s Technical Skills Course (TSC) Syllabus

SQL

✓ Learn about Select * and selecting other fields from a table
✓ Learn how to create a brand new table from a query
✓ Learn how to update values within a SQL query
✓ Learn to insert and delete rows from a SQL query
✓ Learn to perform a GROUP BY in SQL to get at sums, averages, and counts
✓ Learn to use the WHERE in SQL to get a conditional sums, averages, and counts
✓ Learn about ORDER BY to sort your data within a SQL query
✓ Learn about how to perform JOINS
✓ Utilize SQL in conjunction with MS Access databases
✓ Learn how to perform SQL within Microsoft Excel using Microsoft Query+

SAS

✓ Uploading your data into SAS
✓ Filter and sort your data
✓ Create new variables for analysis
✓ Add comments to your SAS code to make it more readable
✓ Using print commands to view your data
✓ Analyze your data using contents, frequency, and correlations
✓ Summarize your data using PROC Reports and Summary Statistics
✓ Learn to reorder your dataset
✓ Perform merges in SAS including left, right, and inner joins
✓ Learn to use SQL within SAS for code efficiency
R

- Gain foundational knowledge in R to prepare for the SOA/CAS preliminary exams
- Run scripts in base R and R Studio
- Make distinctions between the various data types in R
- Perform various vector operations
- Create matrices to perform financial analysis
- Load data into R using data frames
- Visualize your data using GGPILOT2
- Create predictive models in R