ACTUARIAL SOCIETY OF SOUTH AFRICA

Subject A402
Model Documentation, Analysis and Reporting

Aim

The aim of this module is to ensure that the successful candidate can model data, document the work (including maintaining an audit trail), explain the methods used, interpret the outputs generated and communicate the approach, results and conclusions to an actuarial audience.

Links to other subjects

Subject A402 (CA2) — Model Documentation, Analysis and Reporting requires the student to undertake a practical modelling assignment. This can be based on any of the Foundation and Intermediate Technical subjects A100 and A200 Series (CT1–CT8) and also uses the principles in Subject A301 (CA1) — Actuarial Risk Management and the communications development in Subject A302 (CA3) — Communications.

Previous related study

From July 2010 a student needs to have passed or been granted exemption for all A100 or A200 subjects. The student must also have at least one year's work experience with an actuarial employer.

The student needs a working knowledge of computer based spreadsheets and word processing packages.

Objectives

A402 Model Documentation, Analysis and Reporting requires attendance at a two day assessment. Prior to the course students will be provided with background information on the course, useful Excel functions, practice assignments and links to additional sample assignments. Students will be required to hand in assignments before being admitted to the course. On the first day of the course students will be provided with additional information on good practice, examination requirements and the opportunity to apply these principles. On the second day the assessment takes place under examination conditions.

The successful candidate will be able to demonstrate:

I Analysis of data

(a) Summarise data using appropriate analysis, descriptive statistics and graphical representation.

(b) Select and carry out appropriate statistical tests of reasonableness.

(c) Make appropriate assumptions about the data provided.

(d) Repair corrupt or missing data.

II Development of a model with clear documentation (including an audit trail for a fellow student and a management actuary)

(a) Plan and produce a spreadsheet model to solve a specified problem.

(b) Document the results of the model including justification of key assumptions, detailing the methodology adopted, an appropriate level of reasonableness checks, sensitivities, and limitations.

(c) Produce an audit trail enabling detailed checking and high-level scrutiny of the model by both audiences.

III Ability to analyse the methods used and the model's outputs

(a) Perform checks on the results of a model, including applying sensitivity and/or scenario tests.

(b) Comment on the reasonableness of the results under different scenarios.

IV Ability to apply and interpret the results

(a) Apply the results to the problem set, suggesting solutions.

(b) Summarise the results using appropriate charts and tables.

(c) Consider possible next steps.

V Communication of the approach, results and conclusions to a senior actuary

(a) Plan and draft a summary document to cover the data, approach, assumptions, results, conclusions and suggested next steps.

End of Syllabus