



Institute of Actuaries of India

Subject
CP2 - Modelling Practice
Core Practices

For 2024 Examinations

CP2 - Modelling Practice

Syllabus for the 2024 Examinations

This syllabus includes information to support the study of this subject. It will guide you through what you need to learn, application of learning as well as the skills that you need to develop. Information regarding the assessment of this subject is also included.

This syllabus includes:

- Aim of the subject
- How this subject links across the Qualifications
- Subject topics and topic weightings
- Subject objectives
- Assessment information

Aim

Understand and apply the critical steps to model data, document the work, create and maintain an audit trail, analyse the methods used and outputs generated and effectively communicate to colleagues the approach, results and conclusions

Links Across the Qualifications

Associateship Qualification

In the assessment of this subject, students will use techniques and apply concepts developed in CM1, CM2, CS1, and CS2 as well as application of CP1 principles.

Topics and Topic Weightings

1. Preparation and analysis of data [10%]
2. Development of a model [20%]
3. Model testing [5%]
4. Documentation [45%]
5. Communication of results and conclusions [10%]
6. Next steps [10%]

Objectives

1 Preparation and analysis of data [10%]

- 1.1 Use appropriate tools for checking, cleaning, restructuring and transforming data to make it suitable for analysis
- 1.2 Summarise data using appropriate analysis, descriptive statistics and graphical representation
- 1.3 Select and carry out appropriate statistical tests of reasonableness
- 1.4 Make appropriate assumptions about the data provided
- 1.5 Repair corrupt or missing data

2 Development of a model with clear documentation [20%]

2.1 Plan and produce a spreadsheet model to solve a specified problem

2.2 Create appropriate charts to support visual interpretation of the results

3 Model testing [5%]

3.1 Perform checks on the intermediate and final results of a model

3.2 Comment on the reasonableness of the results from a model under different scenarios

4 Documentation [45%]

4.1 Create a clear audit trail, which could be followed by a senior actuary and would enable the model to be worked on and corrected by a fellow student and includes:

- key assumptions
- description of data and model checks
- methodology
- reasonableness checks

4.2 Draft a clear summary of the model and the results for a senior actuary to include:

- the data
- assumptions
- approach taken
- results
- conclusions
- suggested next steps to develop the model

5 Communication of results and conclusions [10%]

5.1 Provide commentary on the results from a model appropriate for the target audience. This should cover, but not be limited to:

- Analytical comments on each stage of the results, including explaining patterns in the results and any unusual features
- An explanation of the differences between the results under the various strategies modelled

6 Next Steps [10%]

6.1 Identify possible next steps for the client having taken into consideration the initial modelling and the results, including:

- Possible enhancements to the model
- Additional modelling to provide additional information to support the project's objectives.

Assessment

Two three-hours and fifteen-minutes computer-based modelling assignments.

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