Application task design template

This editable document, with checkboxes, may be of assistance to teachers as a ***guide*** for designing an application task with three components of increasing complexity.

**Title of the application task**

<This indicates the context for investigation>

**Introduction**

<This provides a general description of the context, background for the investigation, an overview of the nature of the mathematics involved, and links to relevant source material such as data or other contextual information>

**Component 1**

General Mathematics

The construction, description and interpretation of data plots, including smoothed plots where time series data is used.

Mathematical Methods

Introduction of the context through specific cases or examples

Specialist Mathematics

Introduction of the context through specific cases or examples

<Brief introductory statement/stem indicating what is covered in this component as applicable, and any relevant information or data. Use of sub-sections with relevant stem text to indicate various aspects of investigation and analysis required>

a.

b.

c.

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**Component 2**

General Mathematics

The calculation and interpretation of summary statistics, including seasonal indices and their application where time series data is used.

Mathematical Methods

Consideration of general features of the context

Specialist Mathematics

Consideration of general features of the context

<Brief introductory statement/stem indicating what is covered in this component as applicable, and any relevant information or data. Use of sub-sections with relevant stem text to indicate various aspects of investigation and analysis required>

a.

b.

c.

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**Component 3**

General Mathematics

The modelling of linear associations, or trends where time series data is used, including the use of data transformation as appropriate.

Mathematical Methods

Variation or further specification of assumptions or conditions involved in the context to focus on a particular feature or aspect related to the context

Specialist Mathematics

Variation or further specification of assumptions or conditions involved in the context to focus on a particular feature or aspect related to the context

<Brief introductory statement/stemindicating what is covered in this component as applicable, and any relevant information or data. Use of sub-sections with relevant stem text to indicate various aspects of investigation and analysis required>

a.

b.

c.

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**Mapping of content with respect to the areas of study**

<Complete the following table as applicable using content dot points from the study design ordered numerically from 1 to *n* for each area of study. Use a row in the table for each area of study, leave blank any areas of study not covered>

The following content from the listed areas of study is addressed through this task.

General Mathematics

|  |  |
| --- | --- |
| **Area of study: Core – Data analysis** | **Content dot points** |
| *Investigating data distributions* |  |
| *Investigating associations between two variables* |  |
| *Investigating and modelling linear associations* |  |
| *Investigating and modelling time series data* |  |

Mathematical Methods

|  |  |
| --- | --- |
| **Area of study** | **Content dot points** |
| Functions, relations and graphs |  |
| Algebra, number and structure |  |
| Calculus |  |
| Data analysis, probability and statistics |  |

Specialist Mathematics

|  |  |
| --- | --- |
| **Area of study** | **Content dot points** |
| Functions and graphs |  |
| Algebra |  |
| Calculus |  |
| Vectors |  |
| Mechanics |  |

**Mapping of key knowledge and key skills with respect to the Outcomes**

<Complete the following table as applicable using key knowledge and key skill dot points from the study design ordered numerically from 1 to *n* for each outcome>

Outcomes

The following outcomes, key knowledge and key skills are addressed through this task.

General Mathematics – Data analysis

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Key knowledge dot point** | **Key skill dot point** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Mathematical Methods

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Key knowledge dot point** | **Key skill dot point** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Specialist Mathematics

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Key knowledge dot point** | **Key skill dot point** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |