



# Statistician



## Keywords



Statistical Modelling



Machine Learning



Data Analysis



Econometrics



Quality and risk management frameworks



Statistical theory and techniques



Numeracy

*Statisticians apply statistical methods and models to real world problems to create actionable insights.*

Statisticians use statistical theory and techniques to collect, interpret and analyse quantitative data to produce useful statistics that highlight trends, relationships or patterns in data. They are highly numerate and have an excellent understanding of statistical computing programs and packages. They collect and manipulate data, leverage computer systems and integrate algorithms to inform their actions.

Statisticians record and present their findings using a variety of communication tools and techniques, to inform decision making, policies and programs. They develop statistical reports and insights.

Statisticians work in partnership with data users, other data professionals and business domain experts.

## Key Technologies

Statistical Computing Programs

Machine Learning

Programming Languages

Data Visualisation Tools

Predictive Modelling and Analysis

## Specialisation Roles

Applied Statistician

Biostatistician

Demographer

Biometrician

Machine Learning Analyst

Epidemiologist

## Key Relationships



Clients / Users



IT Professionals



Data Professionals

# Statistician



## Level 1 | Foundation

- Apply mathematical models and numerical analysis methods to simulate processes and perform computations, adjusting models as needed
- Analyse data and produce relevant statistics to identify patterns, trends and relationships in data
- Communicate findings and insights derived from basic data to a range of stakeholders using existing reports and dashboards
- Evaluate the reliability and utility of source information to assess the impact of interventions and determine the statistical validity of observed changes in data
- Develop individual capability
- Collaborate with relevant stakeholders to understand and design experiments and analytical solutions that lead to well utilised solutions
- Collaborate with other data and IT professionals to support process improvements
- Understand and support the management of client expectations

### APS DCF

- 1 STS
- 1 SPC
- 1 EXP
- 1 SCM
- 1 USE
- 1 RSC

### SFIA

- 3 DATS
- 3 MLNG
- 3 SCMO
- 3 VISL
- 2 BINT
- 4 DATM
- 4 DENG

## Level 2 | Intermediate

- Formulate and apply mathematical models and numerical analysis methods to simulate processes, develop algorithms and perform computations, adjusting models as needed
- Analyse and produce relevant statistics to identify and describe patterns, trends and relationships in data
- Communicate findings and insights from data to technical and non-technical stakeholders using presentations, reports and dashboards that may require creation or modification using visualisation techniques, with a focus on stakeholder requirements
- Evaluate and describe the reliability and utility of source information to assess the impact of interventions and determine the statistical validity of observed changes in data, providing tailored solutions to improve insights
- Support the uplift of capability of juniors and peers
- Support design experiments to test the performance of alternative analytical methods to enable selection of best options
- Collaborate with other data and IT professionals to support process improvements, recommend system modifications, and contribute to policies for data governance and ethics
- Understand and manage client expectations

### APS DCF

- 2 STS
- 2 SPC
- 2 EXP
- 2 SCM
- 2 USE
- 2 RSC

### SFIA

- 4 DATS
- 4 MLNG
- 4 SCMO
- 4 VISL
- 3 BINT
- 5 DATM
- 5 DENG

## Level 3 | Advanced

- Formulate and apply advanced mathematical models and numerical analysis methods to simulate processes, develop algorithms and perform computations, adjusting models as needed
- Analyse complex data and produce relevant statistics to identify and describe patterns, trends and relationships in data
- Generate high value actionable insights from highly complex data and communicate findings to a broad range of stakeholders using presentations, reports, dashboards, and other visualisation techniques with a focus on the strategic environment and what stakeholders will need in the future
- Evaluate and describe the reliability and utility of source information to assess the impact of interventions and determine the statistical validity of observed changes in data, providing innovative solutions to improve insights
- Build the capability of the Statistician community across the organisation and other APS agencies
- Collaborate with business owners and other relevant stakeholders to understand and design experiments and analytical solutions that lead to well utilised solutions
- Collaborate with other data and IT professionals to identify new trends and innovations, process improvements, recommend system modifications, and assist data professionals that specialise in data governance and research
- Understand and manage client expectations, and negotiate with and inform key stakeholders to develop and implement advanced analytical solutions that are aligned with organisational requirements and goals and exceed business owners and stakeholders' immediate requirements

### APS DCF

- 3 STS
- 3 SPC
- 3 EXP
- 3 SCM
- 3 USE
- 3 RSC

### SFIA

- 5 DATS
- 5 MLNG
- 5 SCMO
- 5 VISL
- 4 BINT
- 6 DATM
- 6 DENG