



Reading: Course 4 resources and citations

Module 1: Introduction to statistics with Python

Resources

Measures of central tendency: The mean, the median, and the mode

- [article from the Australian Bureau of Statistics](#)

Measures of dispersion: Range, variance, and standard deviation

- [article from Statistics Canada](#)

Measures of position: Percentiles and quartiles

- [statistics dictionary from Freie Universität Berlin](#)

Citations

Compute descriptive statistics with Python

- [Introduction to the JupyterLab and Jupyter Notebooks](#). (n.d.). JupyterLite.
- [NumPy](#). (n.d.). NumPy.
- [Pandas - Python Data Analysis Library](#). (n.d.). pandas.
- [Python 3.10.6 documentation](#). (n.d.). Python.

Module 2: Probability

Resources

Fundamental concepts of probability

- [lecture notes from Richland Community College](#)

The probability of multiple events

- [Seeing Theory](#)

Calculate conditional probability for dependent events

- [article from Investopedia discusses conditional probability in a business context](#)

Calculate conditional probability with Bayes's theorem

- [Bayes' theorem explained by Pennsylvania State University](#)
- [Explanation of the prosecutor's fallacy by the American Journal of Epidemiology](#)

Discrete probability distributions

- [article from Statistics How To](#)

Model data with the normal distribution

- [article from Duke University provides a useful summary of the main characteristics of the normal distribution](#)

Citations

The binomial distribution

- Zach. (2021, April 15). [An introduction to the binomial distribution](#). Statology. Work with probability distributions in Python
- [Python 3.10.6 documentation](#). (n.d.). Python.

Module 3: Sampling

Resources

The stages of the sampling process

- [generate a sample](#)

Probability sampling methods

- [sample](#)

Citations

Sampling distributions with Python

- [Python 3.10.6 documentation](#). (n.d.). Python.

Module 4: Confidence intervals

Resources

Confidence intervals: Correct and incorrect interpretations

- [article from ThoughtCo.](#)

Construct a confidence interval for a small sample size

- [article from Scribbr](#)

Citations

Confidence intervals with Python

- [Python 3.10.6 documentation](#). (n.d.). Python.
- [Numpy and Scipy documentation](#). (n.d.). SciPy.

Module 5: Introduction to hypothesis testing

Resources

Differences between the null and alternative hypotheses

- [article from Statistics How To](#)

Type I and type II errors

- [article from Simply Psychology](#)

Determine if data has statistical significance

- [article from Scribbr](#)

Case study: Ipsos: How a market research company used A/B testing to help advertisers create more effective ads

- [website from Think With Google](#)

Citations

Use Python to conduct a hypothesis test

- [Python 3.10.6 documentation](#). (n.d.). Python.
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