
UNIVERSAL DESIGN FOR LEARNING APPLIED TO AN UNDERGRADUATE STATISTICS SUBJECT

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SUB-THEME: Equity, Diversity and Inclusion

As a community, mathematicians have historically used a 'one size fits all' approach to the design, development, and delivery of teaching materials and student assessment. To engage with different cohorts of students, we need to move away from rigid structures and towards approaches that recognise the diversity among potential learners of the mathematical sciences. Universal design for learning (UDL) promotes inclusive teaching practices at all stages of a subject, providing students with multiple avenues for engaging with the content (CAST 2024; Burgstahler 2010).

In this presentation, we discuss implementing UDL principles in the development of a new undergraduate statistics subject, to be run for the first time in July-November, 2025. We have focused specifically on considering the needs of neurodiverse students and students of different backgrounds. In terms of designing and developing subject content, we have selected illustrative examples across a range of topics that may be of relevance and interest to students, including commerce and finance, social media, nature, health, politics and sports. For subject delivery, we explore using accessible file formats that allow for screen reading and that are compatible with assistive technology. Students are provided options, including the option to choose their own examples, to address given prompts as part of their assessment. In all aspects, we aim to provide meaningful learner agency.

We close by reflecting on the challenges of applying UDL principles to mathematical and statistical subjects and share experiences about low effort methods for incorporating UDL principles into existing subjects.

REFERENCES

CAST (2024). *Universal Design for Learning Guidelines version 3.0*. Retrieved from <https://udlguidelines.cast.org>.
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