

UK Core Statistical Inferential Reasoning Rubric

UK General Education Learning Outcome 3: *Students will demonstrate an understanding of and ability to employ methods of quantitative reasoning.*

Outcomes and Assessment Framework: Students will (a) demonstrate how fundamental elements of mathematical, logical and statistical knowledge are applied to solve real-world problems; and (b) explain the sense in which an important source of uncertainty in many everyday decisions is addressed by statistical science, and appraise the efficacy of statistical arguments that are reported for general consumption. Curricular Framework Students will take one 3-hour course on the application of mathematical, logical and statistical methods, and one 3-hour course devoted to a conceptual and practical understanding of statistical inferential reasoning.

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Demonstrate how fundamental elements of statistical knowledge are applied to solve real-world problems	Competently converts relevant information into fundamental elements of statistical knowledge and provides an effective portrayal for the purpose of solving real-world problems.	Provides an adequate conversion of information into fundamental elements of statistical knowledge.	Provides a conversion of information, but resulting statistical portrayal is only partially appropriate or accurate.	Conversion of information is incomplete or inappropriate and results in an ineffective portrayal.	Does not attempt the problem.
Explain the sense in which an important source of uncertainty in many everyday decisions is addressed by statistical science	Competently makes appropriate decisions and provides a thoughtful defense of the decision based on statistical science.	Makes appropriate decisions and provides a defense of the decision based on statistical science.	Makes a decision and provides a defense of the decision based on statistical science, but arguments are only partially appropriate or accurate.	Makes a decision and provides a defense of the decision, but arguments are inappropriate or inaccurate.	Does not attempt the problem.
Appraise the efficacy of statistical arguments that are reported for general consumption	Uses statistical language and/or constructs in connection with an argument for the purpose of evaluating efficacy.	Uses statistical language and/or constructs in connection with an argument, though it may be presented in a less than completely effective format or some parts of the explication may be uneven.	Uses statistical language and/or constructs but does not effectively connect it to evaluating the efficacy of the argument.	Presents an argument that is pertinent, but does not provide adequate explicit statistical justification.	Does not attempt the problem.