

**Core Curriculum Student Learning Outcomes Rubric: KA-B2. Statistical and Probabilistic Reasoning**

<i>Rubric Dimensions</i>	<i>Capstone</i>	<i>Milestones</i>	<i>Milestones</i>	<i>Benchmark</i>	<i>No Evidence</i>	<i>Not Applicable</i>
	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>NA</b>
<b>B2.1: Sampling and Estimation</b> Use simple sampling and estimation techniques.	Demonstrates a thorough ability to use simple sampling and estimation techniques.	Demonstrates the ability to use simple sampling and estimation techniques.	Demonstrates a partial ability to use simple sampling and estimation techniques.	Demonstrates a limited ability to use simple sampling and estimation techniques.	<i>No Evidence</i>	<i>Not Applicable</i>
<b>B2.2: Statistical Analyses</b> Perform basic statistical analyses, including hypothesis testing and confidence intervals.	Skillfully performs basic statistical analyses, including hypothesis testing and confidence intervals.	Competently performs basic statistical analyses, including hypothesis testing and confidence intervals.	Struggles to perform basic statistical analyses, including hypothesis testing or confidence intervals.	Struggles to perform any basic statistical analyses, including hypothesis testing and confidence intervals.	<i>No Evidence</i>	<i>Not Applicable</i>
<b>B2.3: Graphical and Symbolic Representation</b> Represent data groups graphically and symbolically for various types of data, such as demographic information.	Elegantly represents data groups graphically and symbolically for various types of data, such as demographic information.	Competently represents data groups graphically and symbolically for various types of data, such as demographic information.	Struggles to represent data groups graphically or symbolically for various types of data, such as demographic information.	Struggles to represent any data groups graphically and symbolically for various types of data, such as demographic information.	<i>No Evidence</i>	<i>Not Applicable</i>
<b>B2.4: Application</b> Apply concepts of probability and probability measures, for instance, in determining risk assessment or interpreting predictions	Skillfully applies concepts of probability and probability measures (e.g. determining risk assessment or interpreting predictions).	Competently applies concepts of probability and probability measures (e.g. determining risk assessment or interpreting predictions).	Struggles to apply concepts of probability or probability measures (e.g. determining risk assessment or interpreting predictions).	Struggles to apply concepts of probability and probability measures (e.g. determining risk assessment or interpreting predictions).	<i>No Evidence</i>	<i>Not Applicable</i>
<b>B2.5: Evaluate</b> Analyze and evaluate common statistical situations, such as making a claim of a novel scientific finding or outcomes of polls and surveys.	Skillfully analyzes and evaluates common statistical situations (e.g. making a claim of a novel scientific finding or outcomes of polls and surveys).	Competently analyzes and evaluates common statistical situations (e.g. making a claim of a novel scientific finding or outcomes of polls and surveys).	Shows some difficulty when attempting to analyze or evaluate common statistical situations (e.g. making a claim of a novel scientific finding or outcomes of polls and surveys).	Shows great difficulty when attempting to analyze and evaluate common statistical situations (e.g. making a claim of a novel scientific finding or outcomes of polls and surveys).	<i>No Evidence</i>	<i>Not Applicable</i>
<b>B2.6: Limitations</b> Recognize that mathematical and statistical methods have limits and be able to identify their misuse.	Insightfully recognizes the limits of mathematical and statistical methods and identifies their misuse.	Recognizes the limits of most mathematical and statistical methods and identifies their misuse.	Shows some difficulty with recognizing the limits of mathematical or statistical methods and with identifying their misuse.	Shows great difficulty with recognizing the limits of mathematical and statistical methods and with identifying their misuse.	<i>No Evidence</i>	<i>Not Applicable</i>
<b>B2.7: Communication</b> Effectively communicate technical results of statistical work.	Effectively communicates technical results of statistical work.	Communicates technical results of statistical work.	Shows some difficulty with communicating technical results of statistical work.	Shows great difficulty with communicating technical results of statistical work.	<i>No Evidence</i>	<i>Not Applicable</i>

This rubric was developed by Core Curriculum Assessment Committee using the MFA core curriculum outcomes for this knowledge area. It is based on the [AAC&U VALUE Rubrics](#). Please note that a zero is recommended by the AAC&U but does not appear on their rubrics. NA has been added to accommodate assignments that do not address a particular rubric dimension. Revised 12/8/2020.